Preface

The Endangered Species Conservation Act of 1969 (Public Law 91-135) required the Department of the Interior to develop a list of species which were in danger of "worldwide extinction" and prohibit their importation into the United States. The Act was passed on a wave of public concern that many foreign species were in imminent danger because of importations into the United States by the fashion and pet trade or by trophy hunters. The leopard was the chief symbol of the Act's proponents. The task of developing the list fell to the Office of Endangered Species/ International Activities of the Bureau of Sport Fisheries and Wildlife.

The Office of Endangered Species consulted international conservation organizations, the wildlife management agencies of African and Asian countries and individual scientists in 1970. They found leopards were under heavy pressure by poachers for the fur market, and foreign agencies would welcome assistance in curbing poaching. The United States was providing this assistance through enforcement of the Lacey Act which prohibits importation of animals taken illegally in another country. Department of Commerce figures showed that importation of raw, undressed leopard skins dropped from 9,556 in 1968 to 7,934 in 1969, 996 in 1970 and 35 in 1971.

The Office concluded that leopards, as a species, did not meet the requirements for listing under the Act whose legislative history specified that a species or subspecies might be placed on the endangered list only if it were threatened with worldwide extinction and that a serious reduction in numbers in a single country was not an adequate basis for placing a species on the list when it was plentiful elsewhere.

Several subspecies found in the Middle East and North Africa, where leopards are persecuted because they prey on livestock were found to qualify and were placed on the endangered list when the law went into effect in June, 1970.

The 1969 Act was replaced by the Endangered Species Act of 1973 (Public Law 93-205) on December 28, 1973. The new law provided that a species, subspecies or population might be listed as endangered or "threatened" if it were "likely to become an endangered species in the forseeable future throughout all or a significant portion of its range". Prohibition on importation of endangered species were retained, and provisions were made for regulating importation of "threatened" species.

The 1970 decision not to list all spotted cats, and perticularly the leopard, as endangered was not welcomed by organizations which had based fund raising and publicity campaigns on the "plight" of the cats. Many of those who had supported passage of the Act met it with disbelief and anger rather then relief in finding that the species were not as bad off as they had feared. Mr. Denson, who had traveled in Africa at his own expense and, as Staff Assistant for International Activities, had carried out most of the discussion and correspondence with foreign wildlife officials left Washington early in 1971. Harry Goodwin, Chief of the Office of Endangered Species/International Activities, left shortly thereafter.

Pressure on the Department of the Interior to list the leopard was intense. Literally thousands of letters were received and one Congressman threatened legislation which would designate the leopard as an endangered species if Interior did not act.

Based primarily on work credited to Norman Myers, then of the University of California, Interior reversed the original decision. Leopards were added to the endangered species list in March, 1972. They were subsequently included in Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora which was signed on March 3, 1973. The Appendix "includes all species threatened with extinction which are or may be affected by trade". Importation and exportation of listed species by signatory countries is tightly controlled, and the United States does not permit importation of hunting trophies of Appendix I species under any circumstances.

Sportsmen were urged to support passage of the 1973 Act by promises that earlier lists would be reviewed in light of the new laws flexibility. The revenue from hunting licenses which is essential to wildlife management programs in many countries would not be jeopardized, and sportsmen would be allowed to import trophies taken under sound wildlife management programs.

Through August, 1978, little has happened that would support this view of the Act's effect. No foreign species originally listed as endangered has been reclassified as "threatened". A recent ruling on elephants restricts importations of trophies to those taken from countries which are party to the Convention on Internation Trade in Endangered Species. Few African countries with substantial wildlife populations or which permit trophy hunting have signed the Convention.

The leopard is highly valued by hunters as a trophy animal, not only because of its beauty but also because it symbolizes the acme of the hunters skills. Of all the large carnivores, pound for pound, the leopard is probobly the strongest, the most patient when stalking its prey, the best camouflaged, the most efficient when making a kill, and the best all around hunter

in existence today. They are not readily visiable, and in fact, may be relatively abundant without divulging their presence. No satisfactory leopard census method has yet been devised that is applicable over large areas. Hence, the U.S. Department of the Interior has of necessity relied upon what might be considered the "intuitive method" of determining the status of the leopard. Relying upon a few reports from widely scattered areas provided by people with a myriad of forces affecting their viewpoint has not simplified the process for the Fish and Wildlife Service.

The Department of the Interior announced in May, 1975, that evidence accumulated since 1972 suggested that leopards might not be endangered throughout their range and that the Department planned to review that status of the species to determine whether it should be reclassified as a threatened species. As a part of this review process, the U.S. department of state telegrammed the governments of 68 nations which encompassed the leopard's range. Only 37 countries replied at all, and most replies received were either non-informative or non-committal. Noteworthy, of among those from which no replies were received were Angola, Ethiopia, Kenya, Nigeria, Rhodesia, South Africa, Southwest Africa, Sudan, Uganda, and Zaire; all somewhat the keystone to the status of the leopard. It thus became apparent that personal visits and on site contacts were necessary to obtain information upon which to make a decision.

Drs. James Teer and Wendell Swank were contracted to prepare a report on the status of the leopard because of their unique qualifications. Dr. Teer had taught wildlife ecology at the University of Pretoria and through the Caesar Kleberg Research Program in Wildlife Ecology has had supervisory responsibilities over scientists and students working from Tanzania to South Africa for about 10 years. He has been a frequent visitor to that part of Africa, has many contacts, and continues his interests there, primarily in southern Africa.

Dr. Swank assisted in the establishment of wildlife management programs in Uganda in 1956 and 1957. In 1968 he returned to Africa with the Food and Agriculture Organization of the U.N. and was a wildlife advisor to the East African Community, made up of the countries of Kenya, Tanzania, and Uganda. He worked closely with game department and national parks personnel in those countries. In addition, he provided liaison between F.A.O. and the wildlife and national parks departments of Ethiopis and Zambia. He left Africa in December 1974, but continues to maintain contacts and an interest there.

Only 20 copies of the Teer and Swank report were printed. In order to make the report available to a larger group of interested and concerned citizens, Safari Club International has underwritten an additional printing for wider distribution. The U.S. Fish and Wildlife Service has approved the reprinting of the report.

In May, 1978, the Department announced it would review the leopards status to see if it should be removed from Appendix I of the Convention based on evidence presented by Safari Club International. No date when a decision might be expected was specified, and no decisions have yet been reached as a result of the status review announced in 1975.

Drs. Swank and Teer were asked at the North American Wildlife Conference, why foreign wildlife agencies did not communicate their views directly to the US Fish and Wildlife Service if they disagree with the classification of leopards as endangered. (Numerous letters from foreign officials to private citizens stating that leopards were not endangered had been sent the Department.) The answer is simple. Diplomats rather than wildlife officials have attended most of the international meetings where the animal's status has been discussed; direct communication between governmental agencies of different countries is ordinarily discouraged by their respective State Departments which prefer to keep communications in their own hands; and the signatories of the Endangered Species Convention have agreed that the Secretariat which administers the Convention will accept suggestions only from countries which are a party to the Convention. Since few African countries have signed it, they have no voice in decisions made about the status of their wildlife.

Seymour Levy
Legislative Vice President
Safari Club International

Eley P. Denson
Formerly with
The Office of Endangered Species
International Activities
Bureau of Sport Fisheries and
Wildlife

STATUS OF THE LEOPARD IN AFRICA SOUTH OF THE SAHARA

A Report Based on Interviews and Contacts with
Personnel of Natural Resources Agencies and Organizations

by

James G. Teer
and
Wendell G. Swank

for

The Office of Endangered Species
U. S. Fish and Wildlife Service
Washington, D. C.

June 30, 1977

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RECOMMENDED POSITION ON THE CURRENT STATUS AND USE OF THE LEOPARD FOR USE IN POLICY REVIEWS BY THE U. S. FISH AND WILDLIFE SERVICE

The placement of the leopard on the lists of endangered species of the International Union for the Conservation of Nature and the U. S. Fish and Wildlife Service, and its assignment to Appendix I of the International Convention on Trade in Endangered Species of Wild Fauna and Flora are not defensible. The leopard is not endangered under commonly used definitions that endangered status implies, and it has been improperly gazetted to that status. It is threatened as are many species of organisms of varying abundance and limits of distribution. Losses of habitat, poaching, and conflicts with man and his industries are operating against the leopard just as they are for a myriad of other forms of life and assemblages of biota in the world.

For the United States Government two alternative positions are proposed.

The first is to retain the status of the leopard as an endangered species and keep it in Appendix I of the International Convention. This action could continue to prevent commercial trade of leopard skins, but it could also permit the importation of trophy skins into the United States taken legally by sport hunters. To permit this limited importation, the United States Government must change its present policy. Some governments have adopted such a plan. England and some other European nations consider trophies of leopards as personal property and permit them to be imported.

The second alternative is to treat the leopard as other forms of life which have value as objects of sport hunting or for their utility in producing goods and other values important to man. Many animals, plants and natural communities in the world have the long-term prognosis of being threatened with decimation, but they are being conserved and managed for the benefit of man. In the process, they are saved from extinction. Whatever the motive or method, the result is preservation and wise use. This alternative would require disenfranchising the leopard from the status of endangered species and reassigning it to Appendix II of the International Convention.

We favor the latter position. It is consistent with procedures outlined by conservationists, but not necessarily protectionists, for conserving scarce forms of life, and it truely represents the current status of the species.

STATUS OF THE LEOPARD IN AFRICA SOUTH OF THE SAHARA DESERT

The leopard (Panthera pardus) was placed on the endangered species list by the United States Fish and Wildlife Service in 1972, on Appendix I of the International Convention on Trade in Endangered Species of Wild Fauna and Flora in 1973 and on the International Union for the Conservation of Nature (IUCN) rare and endangered species list in 1976. The effect of these events was to prevent any importation of leopard skins for any purpose into the United States. The U. S. Fish and Wildlife Service administers the regulations pertaining to importation of animal products from abroad. Their position in preventing imports of spotted cat skins was taken to curtail the market for cat skins which in turn would reduce the harvest of leopards throughout their range.

Some organizations and individuals in the United States and abroad contend that the leopard is not an endangered species according to the definitions used by conservationists and by the IUCN. They argue that the leopard is a highly adaptable animal, clever and sly in its nocturnal habits, occurs in large numbers in many parts of its range, and contends successfully with man and his industries. Many say that it is reduced in parts of its range by poaching. Some say that it has been tarred with the same brush as some of the other spotted cats; it was simply put on the endangered species list without adequate information on its numbers or consideration for its value to various segments of the world community.

On the other hand, some conservationists in the United States and abroad believe that the leopard is truly endangered. They believe that the removal of the leopard from the endangered species list (Appendix I of the Convention) would promote world trade of leopard skins and ultimately endanger its existence as well as various other spotted cats.

The difficulty in assessing the situation through field studies and reviews of the trade in spotted cat skins is obvious. No one person or organization can put enough biologists or investigators into the field to determine numbers of an animal so secretive and widely distributed as the leopard. It occurs in greatest numbers throughout Africa south of the Sahara, and remnant populations occur in Israel and other north African countries. Then, how does one decide what is the true status and the proper use of a resource that has such value to so many segments of the world's citizenry?

Others (Paradiso 1971, Myers 1976, and Eaton 1976) have summarized the status of the leopard from records of the bio-ecology of the leopard in the literature and from contacts with various research and wildlife managers in many countries in sub-saharan Africa. Their conclusions were that the leopard is not endangered in many parts of the African continent, but that it is threatened along with most other wildlife, herbivores and carnivores alike, by losses of habitat and

through poisons used by stock farmers to control predators on their livestock. The fur trade creates the market for the skin, and to reduce poaching and illicit trade in the spotted cat trade, Myers (1976) recommended that the leopard be retained in Appendix I of the Convention of International Trade in Endangered Species of Wild Fauna and Flora. Eaton (1977) recommended that it be removed from the status given it as an endangered species in Appendix I.

This same convention provides ways in which endangered species can be used. That is to say, they can be relegated to Appendix II, which provides for exploitation of a species when the exporting state has been satisfied that the transfer will not be detrimental to the survival of the species or that the specimen is not taken in contravention of the law of the exporting state.

Because of the widespread controversy surrounding the status and proper use of the leopard in the world, and the particular needs of the United States government to develop a policy based on whatever data are available and the position of the countries who have leopards in sizeable numbers, the U. S. Fish and Wildlife Service contracted with us to make a study of the status of the leopard and, on the basis of our findings, to make recommendations along with alternatives as to the position that should be adopted by the U. S. government.

After study of existing documents relating to the status of the leopard, mainly that of Myers (1976), we abandoned any idea of extending the very scarce data bank on the species. Rather, we decided that the data were too incomplete and studies too scarce for anyone to determine from the literature, except on a very broad basis, the numbers of leopards and their current usses in the illicit and legal trades.

It appeared to us that the only technique available for determining the status of the leopard and each country's position about it was to visit the governmental agencies' chief administrators and research officers to obtain their experienced viewpoints concerning the matter. This we did.

Preparations were begun in early October 1976 to visit executive officers and research scientists of game departments, national parks, and ministries of tourism and natural resources to obtain taped records of their viewpoints. Others sought for information were directors of state and national museums and members of safari companies. These, in our opinion, were the only sources of data, subjective as it were, on which a judgement could be determined for use by the U. S. government on the position it should take in respect to the use of the leopard.

A series of eight questions was developed for use in interviews of these responsible resource administrators and scientists. The questions were carefully worded to elicit essential information (Appendix III). A letter was provided by Lynn A. Greenwalt, Director of the United States Fish and Wildlife Service, to introduce Drs. Teer and Swank to those persons who were to be interviewed (Appendix I). The inter-

views were recorded on tape. In some cases, the person giving the information wished to have access to transcripts of the tapes to edit or elaborate on certain points which he made. Accordingly, those who requested it were furnished transcripts for their review and editing. Edited versions of the interviews are used in the report and are given in Appendix IV.

Thirty-eight man days were spent in Europe and Africa during the month of January conducting these interviews. Forty-two persons were interviewed and about 12 hours of taped material were obtained. Appendix II is an annotated list of people with whom interviews were obtained. In addition to the interviews conducted, contacts were made by mail and written responses are also included in Appendix IV.

RESULTS

We will present in this section some general undertones of and views held by resources personnel whom we interviewed, and a summary of specific intormation about the leopard. We encourage the reader, however, to read the recorded statements in the appendix for it there that the substance of fact and feeling is held.

Some General Views

In the course of the interviews with representatives of conservation agencies and individuals interested and knowledgeable in international conservation affairs, three points of view and convictions were so often expressed that they seem worthy of recording here. These views were widely held and very strongly felt. In future, conservationists whose main interests run to international affairs should give primary attention to them.

Interference in Sovereign Affairs

Practically every representative of natural resources agencies that we contacted expressed the opinion that the United States was presumptive in making rules and regulations which affected their internal affairs. While these representatives, of course, do not have diplomatic duties, they are representatives of their governments and are responsible for the administration and management of wildlife and other natural resources of their countries. Even though some of the people did not express these views on tape, they gave them to us as asides or in conversation not recorded.

They wished to make us understand that they were quite capable and surely had more knowledge of their resources than any person whose contacts in their country might be short and desultory. Some resentment could be detected on the part of resources personnel of one-time colonies of foreign governments. This resentment was pronounced in some cases toward organizations with offices in their countries whose headquarters and support came from abroad.

Farming and Ranching Problems

Leopards in livestock areas present, in the opinion of many, special problems that transcend international interests in protection of endangered species. In East and Southern Africa particularly, conservationists expressed the firm view that leopards will be controlled, rightly or wrongly, if not by government than by the agricultural community because they view them as important predators on their livestock.

Most resources people that we interviewed expressed the view that the protection and conservation (wise use) of the leopard will be accomplished only after some economic return can be realized by the landholder or operator. We found that, in many respects, the views of the livestock farmer or rancher paralleled those of ranchers in North America in respect to the coyote and bobcat. Sheep, goats, game and cattle are vulnerable to predation in their view. They contended that livestock must and will be protected by some control of the predators.

Economic Returns and Competition for Land

Many African countries are now developing after the "winds of change" blew across Africa in the 1950's. Development of land and exploitation of resources are being accomplished to give economic, social, and political identities to these new nations. Our experience in Africa, which was realized once again during this survey, was that those land use schemes and practices which accomplish these ends will be the choices made by governments. In short, as one African expressed to us, "We will not let any event, person, power or plan interdict our national pride, economic need, or social justice."

Thus, allocations of resources and plans for development of these countries will be based on internal needs. Economic competition will be the telling factor in deciding what is done with the land and other resources. The protection and development of habitat for all wildlife will be decided at the market place. Developing countries ask the question, "What is this conservation thing that you ask us to do and for whom are we doing it?" They have the answers.

Specific Information on Leopards

Every person interviewed who was employed by conservation agencies was of the opinion that the leopard in their country is not currently threatened with extinction. Considering the knowledge, background, and experience of those persons interviewed, we believe the data on the status of the leopard obtained and presented here are as valid as any currently available. The data therefore casts considerable doubt as to whether the leopard legitimately belongs in Appendix I of the Convention on International Trade in Endangered Species of Wild Flora and Fauna.1/ The data and weight of opinion also indicate that the leopard should be reclassified to the status of a "threatened species" rather than an "endangered species" under the Endangered Species Act of 1973.2/

On the other hand, there was virtually no support for permitting leopard products to again enter regular commercial channels. Some government officials did, however, propose that governments be allowed to sell skins of depredating leopards taken by them on control.3/

Poaching (illegal hunting and trapping) and a ready market with a relatively high economic return for leopard products were most frequently cited as the cause for the decline in leopard numbers. Destruction of habitat due to the encroachment of agricultural activities was also frequently mentioned.4/

Some governments do not at present have sufficient resources and expertise to cope with the poaching activities.5/

1/ In the first meeting of the Conference of the parties in Berne, Switzerland, it was decided that to qualify for Appendix I a species or taxon must currently (dictionary definition: in the immediate present) be threatened with extinction. Criteria for adding, transferring species on Appendices, Report of U.S. Delegation to the conference, Appendix, p. 11.

2/ 16 USC, 1532 (4), (Supp. IV 1974).

3/ See interview with Jingu, Kundaeli, Tanzania; Sindiyo, Kenya.

4/ See interviews Ashine, Ethiopia; Mutinda, Kenya; Brown, Ethiopia; Anonymous, Central African Empire; Rodgers, Tanzania; de la Bat and Coetzee, South West Africa; Vincent, Anderson and Meester, Republic of South Africa; and others.

5/ See interview Ashine, Ethiopia; Mutinda, Kenya; Maloni, Zaire; and others.

In some instances the lack of effective law enforcement was believed to be due to direct financial benefit from the illicit trade being derived by persons in influential government positions.6/ Illicit trade in wildlife products seemed to be well organized and widespread in Kenya, with Somalis being most frequently mentioned as instigators and participants in the trade.7/

Practically all of those interviewed stated that legal sport hunting would have no detrimental effect on the status of the leopard. One person stated that hunting by tourists created resentment by local people who were not permitted to kill leopards.8/ Another person stated that hunting the leopard would not be detrimental to the population, but that he favored closing all hunting as a move to "cleaning house" in the government wildlife administrative agency.9/

Several persons stated closing of hunting for leopards would be counter productive because there would then be no financial incentive to local people to perpetuate the species.10/

Leopards have some negative values, such as depredating on poultry, small domestic livestock, and dogs. Very infrequently they pose a threat to human life. Wildlife departments take quite a few leopards every year as a control measure.11/ Leopards are also looked upon as beneficial predators upon baboons, which are destructive to agricultural enterprises.12/ Most of those interviewed were of the opinion that the taking of leopards by legally licensed sport hunters has not been a source of illegal skins. Officials stated that governments in most instances had the capabilities to enforce their regulations regarding the taking of leopards and exporting of skins by licensed hunters, but that the illicit trade fostered and supported by local people and people from adjacent countries was difficult to combat.13/

6/ See interviews Brown, Ethiopia, Kenya; Myers, Kenya.

7/ See interviews Hamilton, Zaphiro, Myers, Mutinda.

8/ See interview Junges, World Wildlife Fund.

9/ See interview Myers, Kenya.

10/ See interviews Kundaeli, Tanzania; Junges, WWF; Archer, Sudan; Sindiyo, Kenya; Anderson, South Africa; Meester, South Africa; Matenge, Botswana; Child, Rhodesia.

11/ See interviews Mutinda, Kenya; Jingu, Tanzania; Campbell, Botswana.

12/ See interviews Kidane, Ethiopia; Sineina, Sudan; Chabwela, Zambia.

13/ See interviews Kundaeli, Jingu, Tanzania; Ashine, Ethiopia; Mutinda, Kenya.

In Zambia and southern Africa those interviewed thought that the illegal trade in leopards was not well developed and that such a trade did not pose a threat to the leopard population.14/

The suggestion that a non-reusable seal be used to designate legally taken leopard skins received support in most quarters. One official suggested that, should leopards again be allowed to be imported into the United States, seals be made available at U. S. embassies in those countries where leopards are permitted to be taken by non-resident hunters. Such seals would then be affixed to leopard skins by an embassy staff member after being certified by a local wildlife official that the animal was taken legally.15/ There were allusions that present documentation for exporting and importing skins of leopards taken by sport hunting is adequate, and that additional administrative steps did not justify the anticipated results.16/

Some officials obviously felt that the stand of the United States in prohibiting the importation of skins of leopards legally taken by sport hunting was a reflection upon their ability to adequately manage their wildlife resources.17/

Some signatories to the Convention are permitting the importation of skins of leopards taken by sport hunting.18/ They consider such trophies to be personal property, not items in trade, hence are exempt from the provisions of the Convention.19/ The United Kingdom of Great Britain and Northern Ireland implemented the provisions of the Convention on January 1, 1976, yet for the period 1 January to July 31, 1976, it permitted the importation of 18 leopard skins on the basis that they were personal property.20/

14/ See interviews Carr and Rowbotham, Zambia; Child, Rhodesia.

15/ See interview Sindiyo, Kenya.

16/ See interviews Chabwela, Carr, Rowbotham, Zambia; Child, Rhodesia; Mutinda, Kenya.

17/ See interviews Jingu, Tanzania; Chabwela, Zambia; Campbell, Botswana; Child, Rhodesia.

18/ See interview Hunkeler, IUCN.

19/ Article III, 3(C) of the Convention.

20/ Report on the implementation of the Convention on International Trade in Endangered Species of Wild Fauna and Flora in the United Kingdom, 1 January-31 July 1976. Department of the Environment, United Kingdom of Great Britain and Northern Ireland. P. 85.

RECOMMENDATIONS

The objective of the U. S. government's policy for the management of the leopard should be that policy which will best promote the interests of the leopard as a species. Obviously our measures can only be indirect, as wild populations of leopards do not occur within the United States. Regardless of our ultimate objectives, in any action the government must abide by both the laws of this country and the provisions of any international agreement to which it is a signatory.

In view of the information obtained in this study, it would appear to be both biologically and politically expedient for the United States government to moderate its present position on the importation of the leopard. The leopard can be legally hunted in many African countries and the ban on importation of skins of these legally taken animals is deeply resented by both African government officials and others in those countries. Those people feel that they are in the best position to decide what is appropriate for the wildlife in their country.21/ Many of the biologists and administrators in key positions in those countries are competent. Some of them did, in fact, receive their basic and advanced training in the leading universities in this country.

A decision to permit hunters to import into the United States the skins of their leopards taken legally by sport hunting would receive wide support. This could be done without infringing upon the provisions of the Convention.22/ The interpretation of the provisions of the Convention by the United States could follow the lead of some other countries, i.e., hunting trophies are personal property. In addition, the status of the leopard would have to be changes from "endangered" to "threatened" under the Endangered Species Act of 1973.23/ Such a change is entirely within the discretion of

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21/ See third paragraph in the preamble to the Convention on International Trade in Endangered Species.

22/ The objectives of the Convention were to eliminate the threat to wildlife by controlling over-exploitation for commercial purposes. The preamble of the convention makes this point where it in part states "Recognizing...that international cooperation is essential for the protection of certain species of wild fauna and flora against over-exploitation through international trade..."

23/ 16 U.S.C. 1532(7) (Suppl. IV 1974).

the Secretary of the Interior who can initiate such action at any time. It would, however, be necessary for the Secretary, in cooperation with the Secretary of State, to consult with officials of countries in which the leopard is normally found.24/

In a realistic appraisal of the status of the leopard, and considering its inherent characteristics, the species logically belongs in Appendix II of the Convention; that is, "not currently threatened with extinction, but indications that it might become so."25/ Such a move would increase the stature of the Convention in the eyes of wildlife scientists and African wildlife administrators who are in the best position to really know the situation as it exists.

Most wildlife administrators in Africa would like to be able to sell the skins of depredating leopards taken on control by wildlife officials. To establish a program where this could be accomplished, yet exclude from the trade skins of leopards taken illegally, will require close coordination. Perhaps an international clearing house could be established as an arm of the Convention. This organization would clear skins only from official government agencies for resale to buyers. Putting together the mechanics of such a program would require time, but as pointed out by many of those interviewed, wildlife in Africa to a great extent is managed upon the basis of its economic worth.

24/ 16 U.S.C. 1533 (b) (1) (Supp. IV 1974).

25/ Criteria for adding, transferring species on Appendices; Appendix, p. 12, Report of the U. S. Delegation to the Conference of the Parties to the Convention on International Trade in Endangered Species of Flora and Fauna, Berne, Switzerland, Nov. 2-6, 1976.

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APPENDIX I

Letter of Introduction of Principal Investigators Supplied by the Director of the U. S. Fish and Wildlife Service, Lynn A. Greenwalt

13
ADDRESS ONLY THE DIRECTOR,
FISH AND WILDLIFE SERVICE

United States Department of the Interior

FISH AND WILDLIFE SERVICE
WASHINGTON, D.C. 20240

In Reply Refer To:
FWS/OES 500.3

DEC 3 1976

TO WHOM IT MAY CONCERN:

This letter will introduce Dr. James G. Teer and Dr. Wendell G. Swank, who have been retained by the United States Fish and Wildlife Service, Department of the Interior, Washington, D.C., to conduct a study of the current status and uses of the leopard. Information for their study will be gained from interviews with knowledgeable people in Africa, and from published material on the species. The analysis of this material will be used by the U.S. Fish and Wildlife Service to review its policy regarding the status of the leopard and the regulations of the U.S. Government for importations of skins of the species.

Because you are known to have a keen interest in conservation affairs in your country and elsewhere and because of your special interest in the leopard, we ask your support in assisting the U.S. Government in this endeavor. Thus we request your cooperation by providing information to these two scientists.

With kindest wishes.

Sincerely yours,

Lynn A. Greenwalt
Director

AMERICAN REVOLUTION BICENTENNIAL 1776-1976

APPENDIX II

Annotated List of Persons Interviewed by the Principal Investigators

Appendix II. PERSONNEL CONTACTED FOR INFORMATION ON THE LEOPARD.

Personal Interviews

KENYA

Mr. John Mutinda, Director of Wildlife Division, Ministry and Tourism, Government of Kenya.

Mr. Daniel Sindiyo, Assistant Director of Wildlife Division, Ministry of Wildlife and Tourism, Government of Kenya.

Mr. Denis Zaphiro, Game Warden (1951-1973), Wildlife Division, Ministry of Wildlife and Tourism, Government of Kenya. During that period Mr. Zaphiro worked in all areas of Kenya. In the last four years of his employment he was stationed in the northern part of Kenya. Since retirement, Mr. Zaphiro has been employed in conducting foot safaris in northern Kenya.

Mr. Anthony L. Archer, Professional Hunter, Guide, and Naturalist, Ker, Downey and Selby Safaris, Nairobi, Kenya. Mr. Archer is well acquainted with wildlife and conservation needs in Kenya, Ethiopia, Republic of Sudan, Botswana and other African countries where he has had long and sustained interests through safari hunting and through contracts with museums in the Unites States and Europe.

Mr. Richard Wilson, Rancher and Landowner at Ulu, Kenya. Mr. Wilson is a longtime resident of the area. His father settled at Ulu in 1893, and he has been acquainted with ranching interests and wildlife since early settlement.

Mr. Norman Myers, Consultant in Wildlife and Environmental Affairs, Author and Naturalist, Nairobi, Kenya. Mr. Myers conducted a five-year study of the leopard south of the Sahara while he was employed by the Food and Agricultural Organization of the United Nations. His report was published by IUCN in 1976.

Mr. Robert K. Poole, Director of the African Office, African Wildlife Leadership Foundation, Nairobi, Kenya. Headquarters of this organization is in Washington, D.C. Mr. Poole has wide contacts with conservation organizations and groups in Africa.

Mr. Patrick Hamilton, Biologist. Has been conducting a study on leopard ecology in Tsavo National Park in Kenya for the past five years.

TANZANIA

Mr. Raphael Jingu, Director of the Game Division, Ministry of Natural Resources and Tourism, Government of Tanzania.

Mr. Derek Bryceson, Member of Parliament and Director, Tanzania National Parks, Government of Tanzania.

Mr. W. A. Rodgers, Senior Lecturer, University of Dar es Salaam, Dar es Salaam, Tanzania. Mr. Rodgers was employed for 10 years with the Game Division, Ministry of Natural Resources and Tourism, in the Selous Game Area. Eight of the 10 years were spent as Director of the Miombo Research Station in the Selous. He joined the University of Dar es Salaam as Senior Lecturer in the Department of Zoology in 1976.

ETHIOPIA

Mr. Leslie Brown, Author and Wildlife Ecologist with particular expertise on Ethiopia. One of the outstanding naturalists in Africa.

Mr. Teshome Ashine, Director, Wildlife Conservation Organization, Government of Ethiopia.

Mr. Andeberhan Kidane, Biologist, Wildlife Conservation Organization, Government of Ethiopia.

REPUBLIC OF SUDAN

Mr. Hammaud Abu Sineina, Director of Wildlife Administration, Government of the Republic of Sudan.

Dr. E. O. Hassaballa, Assistant Director of Wildlife Administration, Government of the Republic of Sudan.

ZAIRE

Mr. Maloni M. Gese, Program Advisor, Ministry of the Environment, Republic of Zaire.

Mr. Mangwaya, Legal Advisor to the Minister of the Environment, Government of the Republic of Zaire.

ZAMBIA

Mr. H. N. Chabwela, Chief Research Officer for Wildlife, Department of Wildlife, Fisheries and National Parks, Ministry of Lands, Natural Resources, and Tourism, Government of Zambia.

Mr. Norman Carr, Owner and Operator, Wilderness Trails, Ltd., Lusada, Zambia. Mr. Carr is one of the

recognized authorities on wildlife in Zambia. He was a pioneer employee of the Department of Wildlife, Fisheries and National Parks in Zambia. An author and naturalist, Mr. Carr now operates a photographic safari company in Zambia in the Luangwa Valley.

Mr. Mike Rowbotham, Zambia Safaris, Ltd., Lusada, Zambia. Mr. Rowbotham is principal owner and operator of the only hunting safari company in Zambia.

BOTSWANA

Mr. E. T. Matenge, Director, Department of Wildlife, National Parks, and Tourism. Government of the Republic of Botswana.

Mr. Alec Campbell, Director, National Museum of Botswana. Government of the Republic of Botswana. Mr. Campbell was the Director of the Department of Wildlife, National Parks, and Tourism in Botswana until 1974, when he became Director of the National Museum. He has had a total of 17 years of experience in wildlife work in Botswana and Rhodesia.

RHODESIA

Dr. Graham Child, Director of National Parks and Wildlife Management, Government of Rhodesia. Dr. Child has had extensive experience in wildlife conservation and management in research and administrative positions in Rhodesia and Botswana. Prior to his becoming Director of National Parks and Wildlife Management in Rhodesia, he served for several years as the Chief Research Scientist for the Department of Wildlife, National Parks and Tourism, Government of Botswana. He was seconded to this position as an employee of the Food and Agricultural Organization of the United Nations.

Dr. Reay Smithers, Vice-Chairman, Board of Trustees, Department of National Parks and Tourism, Government of Rhodesia, and Research Scientist, Mammal Research Institute, University of Pretoria, Pretoria, Republic of South Africa. Prior to his retirement in 1974, Dr. Smithers was the Director of the National Museum of Rhodesia. An emminent mammalogist with expert knowledge of mammalogy and conservation affairs in all of southern Africa, Dr. Smithers has authored definitive works on the mammals of Rhodesia, Mozambique, and Botswana. He presently is conducting research on niche separation of the several species of felids that inhabit certain ecological types in southern Africa.

REPUBLIC OF SOUTH AFRICA - PROVINCE OF NATAL

Mr. John Vincent, Assistant Director for Interpretation, Public Relations, and Special Projects, Natal Parks, Game and Fish Preservation Board, Government of the Province of Natal, Republic of South Africa.
Dr. J.A.J. Meester, Chairman, Department of Zoology, University of Natal, Pietermaritzburg, Natal.
Mr. Jeremy Anderson, Research Biologist, Natal Parks, Game and Fish Preservation Board, Government of the Province of Natal, Republic of South Africa.

REPUBLIC OF SOUTH AFRICA - PROVINCE OF THE TRANSVAAL

Dr. S.S. du Plessis, Director, Nature Conservation Branch, Transvaal Provincial Administration, Government of the Province of the Transvaal, Republic of South Africa.
Mr. S.K. Kettlitz, Assistant Director, Nature Conservation Branch, Transvaal Provincial Administration, Government of the Province of the Transvaal, Republic of South Africa.
Dr. Jacobus du Plessis Bothma, Eugene Marais Chair of Wildlife Ecology, University of Pretoria, Pretoria, Republic of South Africa.
Mr. I.L. Nass Rautenbach, Mammalogist, Transvaal Museum, Pretoria, Republic of South Africa.

SOUTH WEST AFRICA

Mr. J.G.J. de la Bat, Director, Department of Nature Conservation and Tourism, Government of South West Africa.
Dr. Eugene Joubert, Chief Research Officer, Department of Nature Conservation and Tourism, Government of South West Africa.
Dr. Neels Coetzee, Director of the State Museum of South West Africa, Government of South West Africa.
Mr. Attila F. Port, Consultant in Environmental Conservation, Windhoek, South West Africa. Mr. Port is a rancher and naturalist and a lifelong resident of South West Africa. He maintains a business in consulting work in game utilization and he is perhaps the best known amateur naturalist in the region with interests in spotted cats.

INTERNATIONAL UNION FOR THE CONSERVATION OF NATURE - MORGES, SWITZERLAND

Mr. John Kundaeli, Staff Member, International Union for

the Conservation of Nature. Mr. Kundaeli was formerly on the staff of the Mweka African School of Wildlife Management, Moshi, Tanzania.

Mr. Pierre Hunkeler, Staff Member, International Union for the Conservation of Nature. Specialist with interests and expertise on West Africa.

WORLD WILDLIFE FUND - MORGES, SWITZERLAND

Mr. Hartmann Jungens, Staff Member, World Wildlife Fund.

FOOD AND AGRICULTURAL ORGANIZATION OF THE UNITED NATIONS - ROME, ITALY

Mr. Gilbert Child, Wildlife Specialist, Food and Agricultural Organization of the United Nations. Formerly on the staff of the Mweka African School of Wildlife Management, Moshi, Tanzania, and Regional Wildlife Officer for Africa in Ghana.

FAUNA PRESERVATION SOCIETY - LONDON, ENGLAND

Mr. John Burton, Chairman of the Trade on Rare and Endangered Species Committee, Fauna Preservation Society, London.

Ms. Jane Thornback, Staff Member charged with updating records of Redbook on rare and endangered species. Fauna Preservation Society, London.

Mailed Responses

UGANDA

Mr. Ali Omar, Director, Uganda National Parks. Mr. Omar was formerly Associate Wildlife Expert, Food and Agricultural Organization, assigned to the East African Agriculture and Forestry Organization.

CAMEROON

Dr. L.P. van Lavieron, Team Leader, FAO Project 74/056, School for Training of Wildlife Specialists, Garoua, Cameroon.

Dr. W. Butzler, School for Training of Wildlife Specialists, Garoua, Cameroon.

CENTRAL AFRICAN EMPIRE

Name withheld upon request, but respondant a well qualified and internationally recognized wildlife ecologist.

WEST AFRICA

Students in the Diploma Course, School for Training of Wildlife Specialists, Garoua, Cameroon, from the countries of Cameroon, Senegal, Zaire, Chad, Benin, Gabon, Ivory Coast, Rwanda, and Morocco.

APPENDIX III

Questions Used in the Interviews of Personnel on the Status and Uses of the Leopard

Appendix III. QUESTIONS USED IN THE INTERVIEW OF PERSONNEL ON THE STATUS AND USE OF THE LEOPARD

These questions were given to persons to be interviewed. They were asked to review the questions in preparation for the tape session.

The following questions will be asked and taped in the interview. You may wish to study these before the interview is conducted. You are welcome to write out your comments and answers. However, we wish to conduct the interview and record your comments on tape. The tapes will be transcribed and upon request they will be submitted to you for corrections and editing before they are used in any reports or papers.

1. Do you consider the leopard rare or endangered in your country?
2. If so, is this status based on present populations or trends in populations that will be brought about by future developments?
3. Upon what basis (personal experience in the field, reports from persons in the field, literature) do you draw your conclusions?
4. If the United States should allow the importation of skins of legally taken leopards by sport hunting would it jeopardize the leopards in your country?
5. Does your country have sufficient enforcement capabilities to prevent skins from leopards taken illegally getting into commercial channels if the U.S. permits importation of skins of leopards legally taken by sport hunters?
6. Do you have the administrative structure to certify that leopard skins brought in by hunters were legally taken in your country?
7. Would you anticipate any problems in having seals issued in the U.S. placed on leopard skins that were to be imported into the U.S., should the U.S. government decide to permit such importation of skins of leopards legally taken by sport hunters?
8. Is there any other data you wish to present?

APPENDIX IV

Interviews Conducted with Personnel of Governmental and Private Agencies on the Status and Use of the Leopard

Interview with Mr. John Mutinda, Acting Director of Division of Wildlife, Ministry of Tourism and Wildlife, Kenya Government. Conducted on January 17, 1977, by Wendell Swank.

Dr. Swank: John, these questions that I am about to ask are not new to you. I gave you a copy of the questions yesterday, and we have talked about some of these same questions several times when I was here in Kenya before. I know pretty well what your thinking was prior to 1975 when I left, but I would like to update my data about the status of the leopard here in Kenya. I'm sure you know of the classification of the leopard in the rare and endangered species list of IUCN and in the International Convention, but I want your own personal viewpoint, and I suppose this will be the viewpoint of the Kenya government.

Do you consider the leopard in Kenya at this time rare or endangered?

Dr. Mutinda: Thank you, Dr. Swank. The leopard is not really rare or endangered, but I can probably safely say that the leopard is a little bit below normal population level. Of course, no one has really studied the leopard thoroughly, so we do not know what optimum numbers may be, or the carrying capacity of an area. These studies are still going on. But at this time I do not consider the leopard an endangered species. It is below normal populations, but of course this varies from area to area. In some areas we are saturated with leopards; but for example in northeastern Kenya I think they are below normal.

Dr. Swank: Is this low population due to poaching by Somalis?

Mr. Mutinda: I should think so, yes. In the western portion of Kenya we have many complaints of leopard depredation, but this may be due to high human population and a scarcity of game on which leopards normally prey.

Dr. Swank: What do you think about the future of the leopard? Do you foresee that it will become endangered in the near future?

Mr. Mutinda: Well, the leopard is an animal that can be directly affected by poaching, but if you keep its habitat it is quite adaptable, and some of our high leopard populations are in well settled areas. If you can keep down excessive poaching the leopard is not eliminated. They can feed on domestic livestock, chickens, and so on.

Dr. Swank: As I mentioned to you before, the U.S. Government wants to review the status of the leopard as far as its importation regulations are concerned, particularly importation by hunters of skins of leopards they have legally taken. I do not know what the position of the U.S. will be, but should

the regulations be changed to permit hunters to bring in the skins of leopards legally taken by sport hunting, do you think this might jeopardize the population of the leopard in Kenya?

Mr. Mutinda: If we are able to maintain the present leopard population this would pose no threat at all. The number of licenses that we would give is a small fraction of our estimated population. We normally give around 100-150 leopard licenses per year. The hunting success on leopard is below 50%, so the number of leopards actually taken would be between 50 and 30. This would not threaten the present leopard population.

Dr. Swank: It has been proposed that a hunter coming to hunt a leopard in Africa would be provided with a boxcar type seal by the U.S. Government which would be serially numbered and issued only in the name of the hunter. If the hunter was successful and took a leopard, say in Kenya, he would then attach this seal to the leopard skin and it could be imported into the United States only with the seal attached and the skin would have to be accompanied by a document from the country of origin showing that the leopard was legally taken by sport hunting. Should this be brought about do you have the administrative structure and the regulations to certify that these skins were legally taken in Kenya?

Mr. Mutinda: Actually, our problem isn't with the hunters. They spend money to come here to hunt, and they are always accompanied by a professional hunter. They must register into a hunting area and they must also register out anything they shoot. Certificates are then issued showing what has been taken from that particular hunting area. Only upon producing this field certificate do we issue a permit for export. Of course, these days we are insisting that the quasi-government organization-Zimmerman, handle all these types of sensitive trophies going out of the country, so no other middle man can handle this type of goods.

Dr. Swank: So a hunter, for example, must check out a leopard at a local check station located in the area in which he is hunting, and receive a document signed by a game officer that he did take the leopard, then you would give the hunter an export permit. You could also at that time affix the seal issued by the U.S. Government.

Mr. Mutinda: Right. That would be no problem.

Dr. Swank: Do you think an unsuccessful leopard hunter would be inclined to buy a leopard skin, say an illegal skin, and attach a seal to it, then import it as a legally taken trophy?

Mr. Mutinda: I don't see how he could do that, even though he might be inclined to do so. In the first place, he is

with a professional hunter who is not going to take the chance of losing his license for a violation. In the second place, he has to produce a fresh skin at the checking station. Also, only Zimmerman can handle this skin and ship it out of the country. Actually, I think such a risk is negligible.

Dr. Swank: Do you think the use of Cuputox as a poison poses a threat to the leopard here in Kenya?

Mr. Mutinda: No. Actually about 5 years ago we thought this did pose a threat. But the skin of a leopard that is poisoned goes bad and the hair peels very quickly. This message got around, so now Cuputox is not used. This happened in the Masai area, particularly, but it isn't used to any extent now.

Dr. Swank: How do you see the future of the leopard in Kenya?

Mr. Mutinda: Well, there is still a lot to be learned about leopards. We need much more research, much more on social habits, reproductive rates, etc., but from by own observation, from data from field reports, and from talking with others, I would say that if we can control the poaching--the very nature of the leopard makes him quite secure. Even now I would say the leopard population in Kenya is higher than that of the lion; however, I know some people would not agree with that.

Dr. Swank: The Department of the Interior has requested that we get what information we could on cheetah. How do you view the outlook for the cheetah in Kenya?

Mr. Mutinda: It tends to be more threatened than the leopard, particularly because of its way of life, its hunting methods, staying in the open, etc. Inexperienced poachers may take a cheetah in mistaking it for the more valuable leopard. We still have a lot of cheetah, particularly in the arid north-eastern areas, so we are in good shape. There are reports that the cheetah has declined in Masai areas, but in the north-east there are as many and maybe more cheetah than there were 5 or 10 years ago.

Dr. Swank: Do you now get quite a few requests for leopard control by livestock operations?

Mr. Mutinda: Yes, we do, mainly from sheep and goat owners. This is particularly so in western Kenya where we have high human populations. At one stage we had to issue special permits for hunting leopards in that area--Kisumu area.

Dr. Swank: So in summary you would think the leopard has gone down in some areas, but is till quite abundant in others, and that should the U.S. Government decide to permit the

importation of skins of leopards legally taken by sport hunters this would pose no administrative problems to your organization.

Mr. Mutinda: Yes, that is correct. We permit hunting of leopards, and we don't feel that hunting is a factor. We do believe that there should be a restriction of the use of the leopard in commercial trade in the United States, and all over the world, for that matter. This is the big problem. As long as there is a commercial attraction, people will find a way to slip items out of the country. That is our big problem.

Dr. Swank: Thank you very much, Mr. Mutinda.

MINISTRY OF TOURISM AND WILDLIFE

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WILDLIFE CONSERVATION AND
MANAGEMENT DEPARTMENT
P.O. Box 40241
NAIROBI, KENYA

19th January, 1977

ANSWERS TO THE INTERVIEW ON
THE LEOPARD STATUS IN KENYA

1. No, we do not consider the leopard to be either rare or endangered in Kenya.

2. If the poaching inluding legal hunting and trapping are stopped, then the present populations could be maintained and have a reasonable margin of building up. Unfortunately, we do not know the exact number of leopards there are in Kenya because there has never been any systematic census carried out. Unlike the lions which can be easily counted because they live in family parties and inhabit wooded grassland areas, the leopards live either singly or in pairs and their nocturnal and semi-arboreal habit make them virtually invisible. Hence, lack of population data of the leopard can be attributed to this evasive behaviour. Besides, the leopard population have been known to reach a threshold of "Concentration limit" due to their aggresive territorial behaviour.

   For instance, efforts to translocate leopards from settled areas into Tsavo National Parks have resulted in failure because the translocated animals have been repulsed by the resident leopards and end up moving out of the Park to get out of the territorial orbit of the resident leopard population. However, we reckon that in certain areas e.g. the Lake Region, the population may be high based on the numerous reports involving the killing of domestic animals; i.e. goats, sheep, dogs and even fowl, by the leopard in that area. Certainly, in the Central Province the population may range from "moderate" to "low" because of the high human densities (over 5,000 per sq. mile) which have resulted in intensive cultivation. However, in the Aberdares and Mt. Kenya National Parks the leopard is often sighted.

   Fortunately enough, the present populations do not seem to be drastically affected by the present forms of land use which consist mainly of shifting cultivation and rearing of cattle, sheep, goats, donkeys, etc., e.g. in the Rift Valley Province where leopards still co-exist with domestic livestock. Elsewhere, the picture may be gloomy because of organised poaching by aliens who are usually armed especially in the North Eastern Province. In the Taita/Taveta District, the monkeys and baboons are becoming a big menace to the cultivations because the leopard which is their natural enemy has been greatly reduced by poaching.

Thus, it is poaching rather than change of land use practice which is likely to affect future population trends.

3. I have drawn my conclusion from literature on the leopard, personal experience while working in the field during the last 12 years; information from wildlife researchers including that from Wardens, Professional Hunters, etc.

4. Not at all. We do not issue more hunting licences than we consider healthy for the utilization of each game species.

5. Skins acquired through legal hunting are easily identifiable through the Government procedures which requires check in and check out in hunting Blocks and production of these skins to the Licensing authority for documentation. The Government uses a parastatal organisation for handling export of all hunted valuable trophies - the Zimmermann Ltd.

6. Yes, we can check on legally obtained skins in the country because a licence holder must produce a licence for every skin in his possession.

7. No, we do not anticipate any problems in this respect.

(J.K. MUTINDA)
DIRECTOR

Interview with Mr. Daniel Sindiyo, Assistant Director, Division of Wildlife, Minst. of Tourism and Wildlife, Government of Kenya. Conducted in Nairobi, Kenya on January 18, 1977, by Wendell Swank.

Dr. Swank: Daniel, what do you think would be the reaction by the local people, that is the Masai people in Kajiado and Narok Districts, if all possibilities of a financial return to them were eliminated from the utilization of the leopard?

Mr. Sindiyo: It seems very clear to me that no one is going to conserve and manage a resource that is not going to provide some financial return to them. This applies to the Masai or any other landowners. The leopard does cause damage to the livestock, and it can not be expected that the Masai will live happily with an animal that has only negative benefits. Fortunately, we are beginning to make more progress in getting revenues from wildlife back to the people. For example, a leopard shot on a license would return to the landowner Sh5,000 ($665 U.S.), so this is it. The landowner now knows that fees due will go directly to him, either as a private landowner, or a member of a group ranch, and they appreciate this very highly.

As you well know, prior to 1973 very few of the landowners had much interest in wildlife. If they saw someone killing wildlife they just went about their business. That has now gradually changed. They now think of wildlife as common property, because money from wildlife is invested in projects that will benefit the whole community. As an example, people in the Kaputia Section of Kajiado have just recently paid for a young man a full scholarship to a university in the U.S. from wildlife money. I think this is a very worthwhile investment.

Dr. Swank: Is he studying wildlife management, I hope?

Mr. Sindiyo: Well, I'm not sure, but I know he is still there and is getting an education.

Dr. Swank: What would you say would be the best management procedures for the leopard; that is, for the benefit of the leopard, in Kajiado District.

Mr. Sindiyo: We have two schools of thought here. One is that of the preservationists. They want leopards to be preserved and give no consideration to the negative side; what the leopard does to the landowner, and other sorts of conflicts that may exist. This sort of thinking is now outdated by events because in Masai country where land was once communal it is now privately owned. So the preservation of wildlife with no return today has no chance. What I would like to see is conservation of wildlife through a management

system; that is, take into consideration all the biology and habitat of the species and manage it for an economic return, whether this be hunting or viewing, so we can justify the existence of the animal to the landowner. Some day the people may preserve the animals because they love them, but we have a long way to go--a lot of educating to do--before we reach that point.

Dr. Swank: I have asked some European cattle ranchers whether they are concerned about depredation of the leopard on livestock, but for the most part they say they do not consider the leopard as a serious livestock predator. They are more concerned about the lion. On the other hand I haven't had an opportunity to talk with ranchers who have sheep and goats, which probably are a more suitable prey species than cattle. I know the Masai have sheep and goats, and I would like to know how they feel about the leopard.

Mr. Sindiyo: The Masai certainly are concerned, even about the loss of one animal. The leopard population hasn't been all that high, but we have been in a drought and the normal wildlife prey hasn't been available, which causes the leopard to pick up sheep, goats, and dogs, and cause problems here and there. We try to sell the people on the fact that we will get in a hunter or in the end take the leopard on control, and the income generated will be of benefit to the community. So we try to leave this in the minds of the people.

Dr. Swank: So in general you would say that the Masai are more concerned about lion depredation than depredation by the leopard.

Mr. Sindiyo: I would say so.

Dr. Swank: At one time there was quite a bit of use of Cuputox to kill lions in Masai country. Myers, in his report, said that this poison was now being used on leopards. Yesterday Mr. Mutinda said that the word had gotten around that the pelt of leopards poisoned with Cuputox had a tendency to slip the hair, and this sort of thing was considered to be not very common now. What has been your experience.

Mr. Sindiyo: That's true. Usually any animal that eats Cuputox will go off at some distance before it dies, and by the time it is found the skin is no good. Hardly anyone today who wants the skin will kill a leopard with Cuputox. In cases of persistent killing of sheep and goats by a leopard, and all other means of control has failed, the Masai may turn to Cuputox. But this occurs in only a few instances.

Dr. Swank: Quite a few people have told me that both leopards and lions are getting more aware of Cuputox, and now many are passing up any type of bait with human scent on it. Do you

know of any instance that would shed more light on this?

Mr. Sindiyo: People have told me that this occurs in a complaining sort of manner; but I think this is one of the good things that has come out of the use of Cuputox. This has been mostly by hunters. They say leopards come to the bait, but they won't feed on it.

Dr. Swank: Would you say the present best use of the leopard in Kenya is hunting, particularly in areas where they seem to be in relatively high numbers such as Nkurman Escarpment.

Mr. Sindiyo: Yes. We are restricting our take on leopard as well as other game. Many of the hunting blocks are closed to the taking of leopards. We try to direct our hunting pressure to where game is most abundant, and hunters can no longer just go to any area.

Dr. Swank: It has been proposed that hunters who take leopards by sport hunting methods be allowed to import the skins into the United States. A method of procedure which has been talked about would be that a prospective hunter be issued a seal before leaving the United States, and that should he be successful this unremovable seal be attached to the skin, and would have to remain attached to the skin when the skin passed through customs when entering the United States. This would be supported by legal documents issued by the country of origin of the skin. Do you think this method would work and would it solve the problem of the importation of illegally taken skins?

Mr. Sindiyo: First, let me say that there are occasions when we in Government must kill a leopard for certain reasons. Now, if we have a hunter who may be lucky enough to take a leopard, a system such as you propose will work, and we would by happy to help. But probably a better method would be to have permits held and issued by your embassy here. Our government would be quite willing to designate a contact officer who would certify that the leopard was taken legally, and when so certified your embassy could issue the seal to the hunter and attach it to the skin which would make it legal for export here and for import into the United States. It should not be then questioned at the other end.

Dr. Swank: That sounds like a good suggestion to me.

Interview with Dr. Norman Myers, Consultant in Environmental Conservation. Interview conducted on January 17, 1977, in Nairobi, Kenya by Wendell Swank.

Dr. Myers: For my report to IUCN most of the data was gathered in 1972 and 1973, but when serving as the FAO Wildlife Officer for Africa I had a chance to update it and the data as presented was correct as at mid-1975. My conclusion in my report was, and I still stand by this, that from the biological and ecological standpoint there is no reason at all why the leopard cannot be subjected to various degrees of exploitation in various areas. Some areas should have no exploitation, but a lot of areas could be subjected to exploitation of a regulated kind. There is no doubt that these latter populations in the wild could stand it.

There is another kind of environment, that is institutional environment, which I think would make it prejudicial to permit the hunting of leopard and many other forms of wildlife should leopard hunting be opened up. I realize this is a very "mushy" area and it's difficult to spell out exactly why I have this strong conviction, but I would say, on the basis of my two years in the field on the survey and my work since, I would be inclined to stand by that conviction. This conviction is even stronger in view of recent developments in Kenya.

The proposal to require a non-reusable seal on leopard skins legally taken by hunters will work if the people administering the program want it to work. On the other hand, the best devised system on paper will not work any better than the individuals implementing it. If parties to the implementation process, say in Kenya, were the senior officials of the wildlife agency, then I would say the process will immediately spring many leaks, especially in view of the present wildlife situation here in Kenya.

I am not against the proper and regulated exploitation of the leopard. I believe I demonstrated that in the leopard monograph. In fact, I proposed regulated exploitation even for the skin trade, let alone for the hunter. I did say, however, that it should not even be attempted until it can be demonstrated somehow that all parties in question are going to operate in good faith and will try to make the thing work. I think it's pretty apparent, giving what is going on in Kenya, especially the last six months when the situation is, I should say, several times worse than it was even a year ago, that there are people here who would just not want to make it work. They will look for loopholes and will even devise methods to get around a system that appears so armor plated that no one could knock a hole in it.

One can say that 500 or so leopards taken in the whole of Africa, such as in the early 1970's, would certainly not hurt the leopard populations. Now say another 500 were sent out illegally. This still would not hurt the leopard populations, but how is this going to modify the institutional

organization that I am so concerned about? I say the only solution is to cease all forms of wildlife utilization until there has been a complete house cleaning of the wildlife organization in Kenya.

Controlling the illegal take of leopards would also help other species. As an example, in 1973 in the NFD of Kenya I found that revenue from illegally taken leopards was really to a great extent carrying the costs of operating an extensive rhino and elephant poaching program. Stopping the sale of leopards would have made the venture less profitable, and this would have been the benefit to the other two species.

As to Somalis engaged in illicit trade in game trophies in Kenya, just this weekend I was told by someone in authortiy that more Somalis are being arrested in the Mara as they move goods up from Serengeti. Certainly Somalis are engaged in the trade, and some may be even doing the poaching, but I have strong repeated pervasive information from people in authority that the people behind the operation, who are setting it up, who are handling the marketing of the skins, and who are also providing the protection against the law enforcement agencies, are senior people in the wildlife agencies here in Nairobi, and are even senior to the Minister of Wildlife himself. As long as you have three of the four top people in the wildlife agency, plus two of the most senior personages in the entire country, engaged in this business, I think it will be difficult to institute a system which will not be subject to breach.

Giving exclusive rights to professional hunting companies over certain areas may have some beneficial effects in curtailing poaching, but generally I think professional hunters lack the time and resources to exercise adequate anti-poaching control over large blocks of country. There are only several dozen professional hunters in this country, and there are several hundred poachers, so I doubt that they can do all that much.

There are two additional comments that I want to make that have a direct bearing on this question. First, I have been told by middle level or senior middle level people in wildlife agencies that no one is going to stop them if they want to turn wildlife into dollars in Swiss banks. The second point is that when Mr. Ogutu, the Minister, went to open the Amboseli pipeline a few months ago, the fund of one half million dollars having been provided by the New York Zoological Society, he chose that occasion of all occasions to state that he does not want foreigners to interfere in the way the Government is managing the wildlife in this country. He has several times since then stated that foreigners are interfering too much in wildlife affairs in this country and he is going to bring this to an end. I just raise this sort of point which would have to looked at rather carefully in establishing a regulated scheme for exploiting the leopard, insofar as it reflects interference by outsiders.

I still stand on the principle that sport hunting of the leopard should be suspended for the time being. I don't think it would have to be for more than one or two years; of course, it's hard to say definitely, but that is the time limit I have been thinking about. If leopard hunting is to be permitted I would strongly recommend that hunters stay away from East Africa. I know this is the traditional hunting grounds for American hunters, but why don't they stick to Botswana where there are stacks of leopards? I imagine that Botswana could yield a couple of hundred leopards a year to sport hunting without harming the residual populations. Would it not be easier to achieve a regulated exploitation if you stuck to just one country in southern Africa, say like Botswana, one country in western Africa like Cameroon where you have the School for Wildlife Management and have trained people to assist in implementing a regulated off-take? Maybe a third country somewhere? I think the Sudan would not be satisfactory because of some of the appalling practices of some German and some Italian professional hunters operating there. I also think southern Sudan is too close to Kenya, but it may be a possibility. Ethiopia has a good leopard population in the southwestern part of the country, but right now I think people in government are too busy looking after their own skins to look after other creatures.

I'm interested in a form of conservation of leopard which could include some kind of sustained exploitation under some circumstances. I would feel more assured about the situation if hunters in East Africa had a better record. There are quite a few instances when a cheetah has been shot by a hunter by mistake, thinking it was a leopard, or putting a bait right on the edge of a major tourist attraction area, like Samburu, taking what are in effect semi-tame leopard. If the hunting organizations in the United States were prepared to demonstrate that whenever an instance of that sort occurs, they light such a bonfire under the individual at fault that no hunter would ever want to do that again or that they will make it quite plain that any hunter going after leopard will conform to all the regulations and all of the other standards and criteria which the hunter should observe, then I would feel more assured about the situation. In my opinion, there have been too many hunters in East Africa whose record doesn't bear too close examination. Hunters should be better than a cross section of the population. They have said they are prepared to exercise more stringent restraints on their conduct in such instances of rare species, or threatened species, or unduly depleted species, that they can do a better job than the next man. In my opinion hunters have yet to demonstrate that.

Dr. Swank: In the case of the cheetah, did a professional hunter accompany the hunter?

Dr. Myers: Yes, he was an Italian.

Dr. Swank: I know the people in Khartoum are very disturbed about the activities of the Italians in southern Sudan. They indicated that they would like to find some way to toss out the Italians, but the Italians are in a joint program with Sudanese in that area and that is their problem. They are will aware that at present it is not a good situation.

Dr. Myers: In my report on Sudan when I was on an FAO mission I recommended that wildlife conservation in southern Sudan had great potential and should be financed through sport hunting because there was such a large potential for sport hunting, much more than hunting with the camera, and I referred to elephants, kudu, bongo, and various other big game species. That would be an area where leopard hunting could possibly be conducted on an appropriate basis, but I'm apprehensive because it is so close to Kenya and I don't think it could be conducted on any satisfactory basis until the Italians are thrown out or are made to conform to the letter and the spirit of the law. But I want to emphasize that the fundamental recommendation of my report to FAO was that wildlife conservation in southern Sudan could be financed through a greatly expanded program of sport hunting. I only mention this to indicate that I definitely am not against sport hunting per se.

In review, I am concerned that any irregularities fostered by sport hunting of the leopard in Kenya will be detrimental, not so much to the survival of the leopard in Kenya, but to the survival of some of the other forms of wildlife and to the survival of an especially endangered species, and that is the wildlife manager who knows his job and tries to do his job. I think he is right on the edge of extinction in Kenya.

Interview with Denis Zaphiro, formerly Kenya Game Warden and Regional Game Warden. Interview conducted on January 15, 1977, by Wendell Swank, in Ulu, Kenya.

Mr. Zaphiro: Poaching by Somalis has been prevalent in the northern district of Kenya for some years. You remember we caught those two poachers in the Mathews Range in December, 1971; they were Somalis. Later on I went back to that area and found the remains of other leopards in traps, with skins still on. Since then I have spoken to a great many hunters who used to hunt those areas, like Julian McKean, David Lockwood, Perozali, who hunted those areas instead of taking their client where most go, down in the south. In the north where before when you put up a bait invariably within one or two days you would have leopards on it, now you will never see a leopard.

Since January 1974, I have walked all over the NFD, and have covered over 2,000 miles on foot. I think I can count on one hand the number of times I've seen leopard spoor in the foothills in the Mathews. It would appear that leopards have disappeared from the foothills and plains around the Mathews. This does not mean that the leopard does not occur in that enormous forest in the higher parts of the Mathews range and this is not to say that the leopard is extinct there, by any means.

When under pressure both lion and leopard just go underground. Lions cease to become vocal--for instance, there are lion all over the place here on Wilson's ranch--but you never hear one. An it's the same with leopard.

Based on 25 years in this country, and closely associated with wildlife here for 25 years it is my opinion that the leopard will probably be among the last to become extinct in East Africa. They are extremely cagy; when under pressure they become entirely different animals, and just because you don't see their spoor doesn't mean there aren't leopards around. They just move into a more secure habitat. I'm convinced that in the Mathews they have just moved higher where they aren't contacted by people.

The Somalis aren't operating very heavily in the Mathews now. They were principally after ivory, and now all of the big ivory has been shot out. There isn't much left except cows with small ivory and calves, and I haven't seen a rhino or a sign of rhino since 1974. Rhino are more easily shot because they must come to water, and in a country as dry as the Northern Frontier District of Kenya you get to know where the water is pretty quickly, and all you have to do is sit by the water hole, and you've got him. Leopards are a different kettle of fish all together. The only way you can get leopards is to put up a smelly kind of bait which will appeal to their kind of carnal instinct, and then put a trap underneath it. But it's no good waiting at water holes; and it's this that makes him difficult to hunt. A leopard can very quickly give up hunting along river beds and move to the forest where

only a few N'doroba go and there aren't many of them go up there.

Certainly leopards have decreased drastically within the past four years. I talked with Julian McKean about this very thing recently. He said whereas four years ago a hunter could expect leopards feeding on his bait within 2 days after putting it up, but there is no question of that now. The Somalis are moving south and they don't have the (anti-poaching) pressure on them they previously had.

The leopard is a very adaptable animal. He has been found at 19,000 feet on Kilimanjaro. He is also very capable of changing his diet. If he has been feeding warthog, and for some reason it becomes desirable to do so he can begin feeding on guinea fowl. Several years ago on the Nkurman Escarpment I saw a leopard stalk and kill a crested francolin.

Frankly the leopard is a species I have not been perturbed about. I have for some time been concerned about species that are particularly vulnerable like the rhino, and species with restricted range like Thomson's gazelle, and Grevy's zebra. Those are the animals that are going to go. Also animals that appear to occur in very localized areas like the roan antelope.

As for permitting leopards to be taken by sport hunting, I don't think it would cause the slightest bit of damage to this country. For every leopard taken legally I would suspect that 30 are taken illegally, and this will go on. Of course, certain checks must be taken. A hunter must have evidence that his trophy was taken legally, and the hunter should not be allowed to sell the skin to the fur trade and it must remain in his possession, and not be made into fur coats, hat bands, and other cosmetic items.

Essentially, however, in the Northern Frontier District of Kenya I think the ivory and rhino horn brought the Somalis there and leopards were a side issue. Now that the ivory and rhino horn is no longer available the pressure on the leopard has decreased. Of course, another kind of political advantage was to build up a cadre of people who know the country just in case Somalia again tries to lay claim to that portion of Kenya that they have always considered as really a part of Somalia. Of course, the Somalis that are established here don't want the situation altered. They have become upper middle class, driving around in Range Rovers costing 4,000 pounds ($12,000 U.S.), and they don't want a situation which could eliminate this life for them.

Constrasted with the leopard, the cheetah seems to be doing quite well in the N.F.D. I see as many cheetah now as I did 25 years ago. A cheetah will not come to a bait, hence isn't susceptible to a trap. A cheetah almost has to be shot, and it isn't always possible to get close to a cheetah. Most people poaching in the N.F.D. do not have good rifles, hence are not capable of killing animals at long ranges. I do think, however, that the cheetah is more likely to disappear before the leopard, because it is more specialized in feeding

habits, and is more localized in the habitat that it occupies. It is also a very poor mother. I have seen female cheetah go off to make a kill and forget where she had left her young.

Interview with Richard Wilson, owner and operator of F.O.B. Wilson Ranch, in Ulu, Kenya on January 16, 1977. Conducted by Wendell Swank.

Mr. Wilson: My father settled this ranch in 1910. He hardly ever saw leopards, but he got a pack of dogs to hunt lions which were killing the cattle, and he found leopards all over the place. Now we see hardly any leopards. Now and then we lose cattle which our herders say are leopard, but it's difficult to determine with certainty. We check tracks but it's difficult to tell the difference between cheetah and leopard, as an example. Personally, I think leopards take few calves. Mostly they mind their own business, and catch birds or other natural bait which they eat. It's very difficult to generalize, but in my opinion, leopards are not readily poisoned by Cuputox. They learn quickly, and seldom make the same mistake twice. Actually, the ranchers do not consider the leopard a major problem.

Interview with Tony Archer, professional hunter, scientific collector, and naturalist, and Patrick Hamilton, Biologist, who studied leopards over a period of three years in Tsavo National Park, 1971-1974. The interview was conducted in Nairobi, Kenya, January 14, 1977, by Wendell Swank.

Mr. Archer: The regional government of Southern Sudan which is semi-autonomous, has complete control of game and tourism in the southern region, so for this reason there is no liaison with the north at all.

In my estimation, the Southern Sudan contains the last remaining undisturbed leopard populations. They haven't been illegally hunted, and they haven't been hunted on license during these past 16 years of civil war. There has been little contact of man with wildlife except those species shot for meat by the Nanya forces.

The chances of getting a leopard by one of my clients there is about what they were in Kenya 10-15 years ago, which was 90%. Two years ago Robin Hurt put up 8 baits and had 6 leopard feeding within a couple of days. Leopards cannot be taken now in the Southern Sudan due to a recommendation by Rhino Hofmann in which Government was virtually forced into joining in the ban on taking of spotted cats. The government now recognizes its mistake and would like to rescind their action, but don't know how to go about it. This action has stripped the Southern Sudan of utilizing a resource of which they have very large stocks indeed. This is denying a country which is very hard pressed for foreign currency the opportunity to conduct hunting safaris. If you put up baits or drive at night you will see leopards, and at night you can hear them all the time. I think it would be a very good thing to have a quota of leopards, which are available for the taking by hunters.

I think a system of requiring hunters to put a seal on skins would be a very good thing. This should apply to hunters from Europe as well as those from the United States.

I do not think an unsuccessful leopard hunter would buy a skin in the market. In 20-odd years of professional hunting, other than the odd hunter buying ivory, which he may not claim to have shot, I know of only 2 hunters in Ethiopia buying nyala skins. I have known of people buying skins for coats, but that's a different thing.

Hunters are not coming into Southern Sudan this season because of the green monkey disease. We virtually had a full season booked, but now have only 2 safaris going and the operating costs are so high in the Sudan that unless we have safaris booked back to back it is uneconomical.

In addition to the green monkey disease the ridiculously high license fees have helped to curb hunting activity in Southern Sudan.

As to leopard in Kenya, my only recent experience is in Nkurman. I was pleasantly surprised about the number there. I saw 3 on one safari. In the Oloitokitok I think they have been hammered harder; it's near the Tanzania border.

Mr. Hamilton: I think poaching is fairly high in the Chulu Hills. I saw a leopard trap on my last trip. The Somalis were in there, as well as in Tsavo. They are using snares; great piles of them. And they are using good snares, new wires. There are a lot of Somalis now in Mtito Andei and Tsavo. Somalis are also active all around Meru game reserve.

Leopards are considerably lower now then they were several years ago. There are still leopards in Nairobi--I heard one in Karen only a couple weeks ago. There are fewer in northern Kenya in the Mathews Range. I talked with the local people there recently and they say leopards are moja moja (one here and there).

As to poison, I think the recent use of poison has made the animals shy. You now see leopards going right up to a bait and won't even take a bite; they just walk away. I think they are pretty smart animals, and they can recover if they aren't knocked too low.

Mr. Archer: Leopards aren't being hunted much now, because they cannot be imported into many countries.

Mr. Hamilton: In spite of the common belief in Africa that baboons are prime leopard prey, my data in Tsavo showed that they (baboons) are hardly taken at all. The same applies in the Serengeti; however, my information is very localized. When leopards made kills of large animals in Tsavo it was almost always bushbuck or kudu. In some areas they evidently do feed on baboons; for example, the leopards on Suswa seem to feed on baboons; they specialized on them.

Mr. Archer: Baboons are frequently used as baits in conjunction with something else, because they "go off" quickly and serve to attract the leopard, but the leopard feeds on the other animals usually used at the bait station, but I agree that in some areas the leopards do specialize on certain prey.

Mr. Hamilton: Somalis poaching in Tsavo use both baited and unbaited traps. Some snares are set in paths where leopards travel.

Mr. Archer: The leopard has regular travel lanes or paths. If bait is put out along one of these paths the leopard will investigate, but will not go very far out of his way to go to a bait. Some leopards are killed by having bows with poison arrows set near the travel lane with trip cords which releases the arrow when the leopard touches them.

Mr. Hamilton: In considering the survival of the leopard, I think his chances are better than most. For example, the lion, rhino, elephant, zebra, and probably many others will go before the leopard. In the final analysis, however, the whole thing hinges on the control of poaching. If poaching is controlled, or there is no export of skins to other countries, there will be no problem. There could be a controlled harvest.

This word control keeps coming in. But in this country there is no control, not really. Last week I was told by a person that came across a Somali with about 20 skins, near Baringo, so he reported it to the police and was told to forget it, and nothing happened.

Here in Nairobi, leopard skins can be bought in curio shops from under the counter. You can get as many as you want.

Mr. Archer: In Botswana the leopard seems to be doing well. At one time due to persistent gin trapping by the local people the population was quite low. Now, after two years of active elimination of traps used by the local people, the population has made a remarkable recovery. This is very encouraging.

Interview with Mr. R.K. Poole, African Wildlife Leadership Foundation, Nairobi, Kenya.

Conducted at 3:00 p.m., January 14, 1977, at the Serengeti Research Institute, Serengeti National Park, Seronera, Tanzania by James G. Teer, on tape.

Dr. Teer: Mr. Poole, do you consider the leopard a rare or endangered species in East Africa?

Mr. Poole: Well, I'll be glad to answer that, but first I should point out that my answers to these questions are given as a private individual and not in my capacity as the director in Africa of the African Wildlife Leadership Foundation. My comments may not represent the views of the organization, but represent my own views. I consider the leopard in this country endangered but not in the terminology of the IUCN, rare and endangered, but rather in the broad terminology, endangered. The leopard certainly is not rare in Kenya, nor is it rare in much of Africa, but I'll speak specifically about East Africa. If the present pressure on the leopard continues, the leopard certainly will soon become rare. The pressure on the leopard is substantial and comes from two main sources: the destruction of habitat and poaching.

Dr. Teer: Mr. Poole, do you consider poaching to be a serious problem in Kenya and other parts of East Africa at the present time even though the skins cannot be used in commerce because of the treaty that has been promulgated among nations that prevents commercial exploitation of spotted cat skins?

Mr. Poole: They are used in commerce within Kenya. You can walk the streets of Nairobi and can see a sizeable percentage of the handbags that are carried by Africans and Europeans are, in fact, made of leopard skins. It is possible to buy leopard skin goods. In a broader sense, of course, the illegal trade in leopard skins between nations is a major commercial factor. So, yes, poaching is a significant factor. For instance, almost without exception, those national parks that have leopards report that there is intense pressure from poachers on leopards. Into the very center of the largest national parks in East Africa, there are people who are tracking the water courses and trapping for leopards.

Dr. Teer: Would sport hunting, if it were allowed in Tanzania, where it's presently closed, and in Kenya, endanger the species beyond that which poaching is already doing?

Mr. Poole: Sport hunting isn't closed Kenya, and there are leopards being hunted. I don't think that sport hunting in itself, in any country where there is a rational and honest system of hunting permits, represents a major danger to the

existence of leopards. The question, I assume, is a different one by implication. That is, will the opening up of sport hunting for leopards and importation of skins into the United States in that manner have any impact? That raises the problem of control. I would think it would be most inadvisable to permit the import of leopard skins into the U.S. from any source. But to answer your question, I don't believe that legal hunting represents a key threat to leopards it it is properly administered. The problem is, of course, that there are very few places on the continent where it is properly administered.

Dr. Teer: Do you think the countries you are familiar with in East Africa--Kenya, Tanzania, Uganda-- have a sufficient enforcement capability to deal with poaching? Or is it of such nature that smuggling and poaching is beyond the pail of law enforcement to control?

Mr. Poole: There's no question in my mind that the countries in East Africa--the three countries you mentioned, Kenya, Tanzania, Uganda--could, if they wished to, bring poaching under satisfactory control. They couldn't eliminate poaching, but they could alter the situation so that poaching does not represent an overpowering threat to their wildlife. It is in their capacity, but they have not done so and there is no indication at present that they will.

Dr. Teer: Do you have any information or do you know of any data on the distribution and population densities of the leopard that might be useful to the U.S. Fish and Wildlife Service in appraising this situation?

Mr. Poole: Well, I think that you already have the published information. There are people in Kenya and in Tanzania who have additional material. Most of the information beyond that has to be relatively subjective. Even the published reports are, to a substantial degree, subjective. My information on the status of leopards comes primarily from discussion with game wardens and with national park wardens and their view is that the leopard is under very significant pressure. In many areas leopards have been eliminated entirely.

Dr. Teer: Beyond these questions, do you have any other information you'd like to present or add to what we've talked about?

Mr. Poole: Well, I have just one comment. That is that the statement is frequently made, and it is a correct statement, that under ordinary circumstances one of the last animals to go where there is human population is the leopard, that it survives far beyond the time span one might expect. But that is then taken to mean that leopards are not in danger

from loss of habitat or from overhunting or poaching. That is quite inaccurate. Where individual leopards survive in rather difficult circumstances, leopards are quite easily taken where poaching occurs. For instance, as an animal to be poached, it can be baited, poisoned, gin-trapped, snared and it has been taken by these methods in great quantity. It is an animal that has amazing capacity to survive under pressure, but anywhere it's available currently in East Africa, poaching teams are in pursuit.

Dr. Teer: I see. You're saying that it is a highly adaptable animal but it is susceptible to being taken wherever it occurs.

One other question, do you think these African countries with which you are familiar have the administrative structure to deal effectively with poaching and commercial utilization of illegal skins?

Mr. Poole: Yes, as I mentioned previously, I do think they can deal effectively to keep poaching in general control, but they are not doing so. I do not think they have the administrative capability at present to deal effectively with the licensing and legal shipment--control of legal shipments--of leopard skins, and I think this is a primary concern. One of the major questions in reintroducing the authority to bring skins into the United states, whether it be under sport hunting or any other role, is that the capacity to control that is very much in question at the source. It is much more easily controlled in the United States or in other using countries.

Dr. Teer: Thank you very much.

Interview with Mr. Raphael Jingu, Director of the Wildlife Division, Ministry of Natural Resources and Tourism, Tanzania.

Conducted at 2:00 p.m., January 5, 1977, at the Game Division Headquarters, Dar es Salaam, by James G. Teer, on tape.

Mr. Jingu: My name is Raphael Jingu and I am the Director of Wildlife in the Ministry of Natural Resources and Tourism in the Tanzania Government.

Dr. Teer: Mr. Jingu, I would like to ask you some questions relating to the status of the leopard in Tanzania.
Do you consider the leopard rare or endangered in your country?

Mr. Jingu: I do not believe the leopard is vulnerable or even endangered in the country.

Dr. Teer: Do you have any information that would lead you to believe this? I know that at the present time, the hunting season is closed on all game species in Tanzania. What brings you to the consideration that the leopard is not endangered or rare?

Mr. Jingu: Although sport hunting in Tanzania is still not open, we have reason to believe the leopard is not endangered or even vulnerable. For example, every year we kill approximately 30 to 40 leopards in defense of human life or property. Then again, every year we apprehend something like 50 poachers with illegal possession of leopard skins. Of course, again, before we closed sport hunting in Tanzania, in which we did allow leopard hunting, we used to allocate something on the order of 300 to 400 leopards for sport hunting every year. Now we have closed hunting for the past four years or so. Now although I know and I think you also know that the leopard is a discreet animal, if you may call it, the kind of animal you cannot see as easily as some of the gregarious carnivore animals like the lion; we have proof that the numbers of leopards are not decreasing. So, in general, we could say that although sport hunting is closed each year, something in the neighborhood of 100 to 150 leopards are killed either through defense of life or property or through poachers; including poachers who are not apprehended.

Dr. Teer: If the United States should allow the importation of skins of legally taken leopards by sport hunters, do you think it would jeopardize the leopard population in your country?

Mr. Jingu: Well, as I said, sport hunting is still banned in Tanzania. Assuming that it does open one day, I am sure that we will allow the hunting of leopards albeit on a small quota. And, of course, we shall ensure that the numbers that are taken in no way jeopardize our leopard numbers, and I do hope the United States will take this into consideration and allow the

importation of these skins legally. But again, even now, when sport hunting is not allowed, as I say, we apprehend between 40-70 leopard skins from poachers and also we kill something like 30 to 40 leopards each year in defense of human life and/or property. Now once these skins are tanned, some are exported legally, and I would expect countries like America and Europe wishing to purchase these skins will accept the legality of the said skins.

Dr. Teer: If sport hunting is again allowed in Tanzania, and the leopard is put on the game list for one of those animals to be taken, do you have sufficient enforcement capabilities to prevent commercial exploitation through poaching of leopard skins? Do you think you can handle the poaching problems that arise from sport hunting of leopards?

Mr. Jingu: Well, yes and no. The position is we now have the mechanism where all legally exported leopard skins have got to have the legal documents. But as you well know it is very difficult to stop poaching and smuggling. So poaching of leopards will continue and people will continue to smuggle. Of course, we do have our own mechanism to ensure that we limit this poaching as much as possible. And if one day sport hunting is allowed we shall ensure that all skins that are exported are exported with legal documents.

Dr. Teer: Then you think that you do have the administrative structure to certify that the leopard skins that are being brought in by hunters were legally taken?

Mr. Jingu: I would like to reiterate that sport hunting is not yet allowed in Tanzania. Of course, if you get somebody importing leopard skins into the States without legal documents from Tanzania, then this person obtained these skins illegally.

Dr. Teer: One of the devices that we have thought about to prevent the leopard skins that are taken by hunters from getting into the commercial market is to tag each skin with a seal that is issued by safari companies or by game departments when they are given a license to take leopard. These seals are the same kinds that are used to close railroad cars, and they can only be snapped shut one time and once they are opened they are broken. If a leopard skin was tagged with one of these seals, that had been issued by and agency such as yours, it would have to be legally taken for that person to have the seal and to carry it back home to the United States. Do you think that kind of technique would assist in keeping the illegally shot leopards from entering the commercial market?

Mr. Jingu: Certainly. Certainly. We shall work on such a method, if and when the right time comes. We shall be anxious to experiment with you, in ensuring that if that was acceptable to you, we would have no objection.

Dr. Teer: Every skin or every animal that is brought into the United States has to go through our customs and if these skins were tagged in such a manner as we've just talked about, then it would seem to me that it would cut down on the leopards and other animals that were being taken in illegally. You could identify then those that were taken by hunters and which had a legal basis.

Mr. Jingu: Yes. Certainly. There's another thing. I know the United States Embassy in Dar has a copy of our wildlife laws. Another way we could help each other is for your customs people to have examples of our documents and signatures of our licensing officers in all the ports-of-entry so that these could be compared with the documents poeple bring in with their skins/trophies. Now this is another thing that could help. But certainly we would be anxious to experiment with you and we hope that this will ensure that all the skins--at least those that pass through the legal entry points--do have legal standing.

Dr. Teer: Thank you very much, Mr. Jingu.

Mr. Jingu: Thank you.

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AIR MAIL.

2nd April, 1977

Mr. James G. Teer,
1204 Walton Drive,
College Station,
TEXAS 77840,
U.S.A.

Dear Mr. Teer,

You must by now have receive my telex, which I am afraid must have taken you by surprise! I re-checked my figures and I found I was awfully wrong. The main body of the interview was correct, except for a few alterations.

**** Enclosed, please, find the acceptable version of our interview and which you can use in your study.

The important point to bear in mind, and you can quote me, is that: "whether we have sport hunting or not, the nature of the interactions between humans and wildlife in Tanzania compels us to kill a limited number of wild animals in defence of human life and or property. This is not limited to leopards only. Animals like elephants, lions, buffaloes, hippos, monkeys and sometimes even antelopes and gazelles are involved. Apart from their meat (monkeys, lions and leopards excepted), we cannot eat the trophies of these animals. Because of their monetary value, we sell the said trophies. And where possible, we export the said trophies. This is the kind of situation we would like the rest of the world to understand. Our position regarding wildlife conservation is unquestionable."

Will it be possible to receive a final copy of your study?

Wishing you the best success

Sincerely yours

(R. JINGU)
DIRECTOR OF WILDLIFE

Interview with Mr. Derek Bryceson, Member of Parliament and Director, Tanzania National Parks. Government of Tanzania.

Conducted at 8:00 p.m. January 13, 1977, at the Serengeti National Park, Seronera, Tanzania, by James G. Teer, on tape.

Dr. Teer: Mr. Bryceson, do you consider the leopard rare or engandered in your country?

Mr. Bryceson: No, I think that I wouldn't say that I consider the leopard one of the endangered species in Tanzania. It is true that the leopard is under considerable pressure in certain parts of Tanzania from poaching, illegal hunting, because of these people who come in and try to kill the leopard because of its commercial value. In Tanzania, in the country as a whole, I don't think I would consider it a rare or endangered species at this moment.

Dr. Teer: At the present time, it is my understanding that sport hunting is banned in Tanzania. If sport hunting is permitted again, do you think that the leopard could sustain sport hunting without jeopardizing the population?

Mr. Bryceson: Yes, indeed I do. But first I should say that I think it is not likely that the government will open sport hunting in Tanzania again in the very near future. That is unlikely on a matter of principle. We do accept the culling of animals--the cropping of animals--but sport hunting is a different matter or principle, and this is not thought to be a good thing to do. But, nevertheless, if it did happen it would happen with very close control, and the controls of numbers. Licenses would be made out on the basis of knowledge of leopard populations in certain areas and I think we would be very careful to see that the future of the leopard was not endangered in that way.

Dr. Teer: Is there a poaching problem in Tanzania at the present time for the commercial exploitation of skins of these animals?

Mr. Bryceson: Well, there is. As I said earlier on, in certain areas the leopard is under considerable pressure from these illegal hunters. It is possible to sell the skins, to smuggle these skins over the borders out of Tanzania into another country, where perhaps the control is not so rigid, and it is more possible to sell skins commercially in that country. In Tanzania, it is not possible because our controls are much more rigid and much more severe.

Dr. Teer: Then you have the proper documentation to identify legally taken leopards or those that have been taken for protection of life or property?

Mr. Bryceson: Yes, not only leopard but all wildlife trophies

are properly documented. We don't sell anything in this country--ivory, wildlife trophy, skin, anything--that has not been properly documented. Somebody buys something here, they receive a certificate to show to the customs people, to satisfy customs people, that they are the legal owners of this trophy.

Dr. Teer: I notice that in some of the shops in Tanzania, curios such as purses and other items made from spotted cat skins are being sold. Is there any effort made to inform these purchasers that they may have difficulty in importing them into various European and American Countries?

Mr. Bryceson: Well, yes, you see we issue the licenses for our own customs people so that they may export these things properly, and so that they may not be troubled when they export them. If they have bought them properly, they have no trouble because they have the proper documentation. Of course, it's not up to us to decide what's going to happen when they arrive in their own country. In this little shop here in Seronera, where some of these things are sold, we have a notice up to warn the American visitor--of course, most of the tourists do come from America--that although he may legally buy this in this country, he may not legally import it into his own country.

Dr. Teer: Do you have any data which you consider viable or sound on the status of the leopard in terms of its numbers in Tanzania?

Mr. Bryceson: No, we don't. The leopard, being a nocturnal animal, and mainly inhabiting the more heavily forested areas, I myself do not have much confidence in some of the data that is put out about leopard numbers. All we can say is that the leopard does not seem to have suffered very much depredation.

Dr. Teer: It is a highly adaptable animal.

Mr. Bryceson: It seems to be so.

Dr. Teer: Do you have any comments to add to what we have discussed?

Mr. Bryceson: On the general question of animal trophies--perhaps the leopard is your only interest now--we have a number of leopards in this country and they are one of our national resources. The country does not have too much in the way of national resources and when the leopard skin is commanding such a very high price on the world markets, we feel if the trade is properly controlled, not only in Tanzania, in other countries also, then it should not be beyond the wit of man to insure the species is not endangered by this trade.

Dr. Teer: Thank you very much, sir.

Interview with Mr. W.A. Rodgers, Senior Lecturer, University of Dar es Salaam, Dar es Salaam, Tanzania. Mr. Rodgers was employed for 10 years with the Game Division, Ministry of Natural Resources and Tourism, in the Selous Game Reserve. Eight of the 10 years were spent as Director of the Miombo Research Centre in the Selous. He joined the University of Dar es Salaam as Senior Lecturer in the Department of Zoology in 1976.

Interview conducted at 1:00 p.m., January 15, 1977, at the Serengeti Research Institute, Serengeti National Park, Seronera, Tanzania, by James G. Teer, on tape.

Dr. Teer: Do you consider the leopard to be endangered or rare in Tanzania?

Mr. Rodgers: As a general answer, no, but I think Tanzania ought to be split into two conservation parts, the game estate or the conservation estate--national parks, controlled hunting areas, game reserves--and the open areas. Certainly, within the conservation estate I do not consider the leopard to be endangered or rare, now or in the forseeable future. But outside this estate where human pressures are increasing, the leopard is diminishing. But the leopard is an animal able to withstand a certain amount of human settlement pressure. But once this settlement grows to a large extent the leopards will almost completely disappear. This is only to be expected. I think, in 30 to 40 to 50 to 60 years time, the bulk of the open areas will have settlement and then leopards will be restricted to the game estate, but this estate is perhaps twelve to fifteen percent of the land area in Tanzania with another six or seven percent as forest reserve estate. So a large proportion of the country is controlled in this way, and leopard numbers will remain, I think, relatively high.

Dr. Teer: Do you base this projection on your feelings about present population trends or are there studies that have brought you to this conclusion?

Mr. Rodgers: Population trends, I think very little is known about leopard anywhere in East Africa or Africa as a whole for that matter. These impressions are based on working 10 years in the Selous Game Reserve, which is the largest block of conservation estate in Tanzania and which is just under 20,000 square miles with absolutely no human rights or pressures--and from my vists outside the Selous in other parts of Tanzania.

Dr. Teer: You're answering the questions then as one who has worked a continuous period of 10 years and who has had considerable experience in game conservation work in the country.

Mr. Rodgers: Yes.

Dr. Teer: If the United States should allow the importation of skins of legally taken leopards; that is, legally taken by sport hunting in Tanzania, do you consider that it would jeopardize the leopard populations in Tanzania?

Mr. Rodgers: I don't think so. We have stopped sport hunting in Tanzania since 1973. We hope, (and I sincerely hope), it will open again in July this year. We would wish leopards to be shot by the legal hunters, sport hunters. I've answered these questions for people in the United States before. I've filled in questionnaires--I think it was for Jonas Brothers in the states--the taxidermists, and individual hunters, sportsmen, and I think official biologists have written to the Tanzania Game Division asking these questions. Certainly within the controlled hunting areas and game reserves in Tanzania, if hunting does open here we would allow leopard to be shot.

Dr. Teer: How much of a problem do you consider poaching and smuggling of leopard skins for the commercial trade to be an influence on leopard populations in Tanzania at the present time?

Mr. Rodgers: Poaching does take place. In certain parts of the country, it's very much worse that others. Tanzania is, I think, better off than most other countries in northeastern Africa. A lot of the leopards taken in our country do go to markets in other countries in Africa--possibly Kenya being the best example. I do not think that many of the very vast conservation areas have a significant poaching threat towards leopards. The poaching is mainly in the north of the country and in non-controlled areas, in open areas. A good example possibly parts of the Loliondo-Lake Natron areas close to the Kenya border where there has been significant poaching for the last five years using toxic cattle dip such as dieldrin, D.D.T., and toxaphene.

Dr. Teer: Does the administrative structure in Tanzania have the means to certify that leopard skins exported by hunters, when hunting was allowed, were legally taken?

Mr. Rodgers: Yes. This was set up reasonably well. All trophies, no matter whether it was a buffalo foot, or a leopard skin, or an elephant tusk, had to have a certified certificate of ownership, and a certificate for lawful export. These were arranged through the game department and through the hunting organization, Tanzania Wildlife Safaris. But there is always a proviso on this that wherever there is an illegal market, ways can be found to get around the law. But I think our administrative structure is as good as could be expected.

Dr. Teer: One of the things that we have thought about in the United States to prevent leopard skins from getting into the illicit trade, at least in North America, is to have skins that are taken by sport hunters tagged with a railway car seal

that could be attached through the eye orbit and numbered--a numbered seal--and thereby identified as a legally taken leopard. These seals could possibly be issued by the United States Government to hunters who had been accepted and given licenses to take a leopard in any country in Africa. The problem that we see is to separate the leopard skins taken by legal means from those taken illegally and especially importation of these products in the U.S. Do you think some system like that would be of use in cutting down the poaching trade that could be attendant to sport hunting?

Mr. Rodgers: It could be of some assistance. You could do it two ways perhaps. One is giving the tag to the hunter who leaves the states to go to an African territory to hunt leopard. He would be issued a license. On the other hand, he might not get a leopard legally. If he has the tag in his possession, it could therefore be possible to buy a leopard skin illegally and stick his legal certification on it. Another way might be for the United States government to issue to licensing authorities in Africa a certain number of these tags and when the hunter produces his leopard skin that he shot legally through the hunting organization, the game department or similar organization would then attach the United States seal. I think that might be a slightly better way. I'm sure that the game department here would have no objection to doing this.

Dr. Teer: Do you have any data that you have gathered personally or do you consider data sufficient that have been gathered by scientists and research organizations generally to make a judgement about the status of the leopard, its numbers, distribution and proper use?

Mr. Rodgers: Not hard and fast data. There are a number of indices I can use. Recently I put out a distribution questionnaire trying to map distributions of large mammals in Tanzania, and I was using a baseline date of 1955 on this one. We split Tanzania into a grid based on the quarter degree grid, a whole series of squares each of which is 15 minutes by 15 minutes or 17 by 17 miles, and there are about 1200 squares covering Tanzania. Certainly the leopard in the past 20 years has been present in over 90 percent of these squares based on replies by game wardens, game biologists, park wardens, farmers, tsetse people, etc., etc. So that is one sort of index that shows it was very very widely distributed in Tanzania, and I think even now. Secondly, within the Selous Game Reserve, one index of leopard availability has been by licensed, legal hunters setting up baits to attract and shoot their leopard. The index of baitability, or the attraction of leopards to the baits, has been very very high. If a man would, say stick up 20 baits, he might expect 15 to 16 of these to attract a leopard. People who were allowed to shoot a leopard in the Selous were nearly always able to shoot one easily. If numbers were low, hunter success would be equally low. I think this is a good indication

of leopard numbers and this could be used as a monitoring scheme in the future--by hunter success or bait success.

Dr. Teer: Is there any other information that you would like to have recorded in addition to the questions we have discussed?

Mr. Rodgers: Mentioning the benefit perhaps of sport hunting in Tanzania, we attract people by the rare species. We don't attract people here to shoot wildebeest or warthog. They come here to shoot the rarer, more attractive, more valuable trophies. These can be listed as lion, leopard, elephant, to some degree rhino, although interest in shooting rhino is diminishing. Other examples might be sable, roan, oryx. These are the animals that attract hunters here, and these are the animals that we put the highest levy or highest fee on. Leopard prices possibly with the new hunting might be as high as 6,000 shillings. This is apporaching a thousand dollars. In the Selous Game Reserve, 20,000 square miles, we allowed a quota of two leopards per block and there were 40 hunting blocks in the Selous. So this was a quota of 80. Eighty times 6,000 shillings is quite a sizeable piece of revenue to the Tanzania government. And we believe this number of leopards would have little effect on populations and the money coming from such legal hunting is to a certain degree plowed back into conservation. Without such monies, conservation is not economic or revenue raising in Tanzania. So by allowing leopards to be hunted, there is considerable feedback for conservation.

Dr. Teer: Thank you very much, sir.

Mr. Rodgers: Thank you.

Interview with Leslie Brown, distinguished ecologist with extensive experience in Africa, and particularly in Ethiopia. Conducted in Karen, Kenya on January 19, 1977, by Wendell Swank.

Dr. Swank: When in Addis Ababa I talked with Mr. Ashine, Mr. Andebenhan Kidane, and Mr. Peterson, and they said there were still quite a few leopards in the southwestern part of the country near the Sudan border.

Mr. Brown: I suspect that the leopard is still quite widely distributed in Ethiopia, but I really have no concrete data and nobody else does either. In 1969, when I was last in that portion of Ethiopia, I judged that there was as high leopard population there as I had ever encountered anywhere. At the same time they were quite common in the Bale and Rutu mountains, and they were also quite common along the Mui River and Omo. But by 1973 they had already been badly hammered. Essentially the skin trade had really not gotten going to the same extent in 1969 that it had in 1973, at least that was my impression. Also at that time, 1973, when I was at that raptor conference at Fort Collins, I think it was the police in Los Angeles called me and asked it I could give my opinion whether it would be possible to export from French Somalia 1,000 leopard skins in one year, reportedly all coming from French Somalia, and I gave the opinion that there couldn't be one-tenth that number of leopards in the whole of the place even if they were at capacity numbers. But you see that is what was happening. They were all going out by Djibouti, but they were coming from Addis Ababa.

Dr. Swank: Who actually does the poaching in the field in Ethiopia?

Mr. Brown: Why, everybody.

Dr. Swank: There are Ethiopians?

Mr. Brown: Yes, all of the local Ethiopians. They have rifles, and in the Bale Forest they make dead fall traps, somewhat similar to what I have seen in Mount Elgon here in Kenya. There were many of these, but I remember one that we found we couldn't get it to work. We broke it to bits and destroyed it, but they obviously caught them by this means and it was always said by my brother when he was game warden in the Oma park that the maja police used to exhange rifle ammunition for leopard skins, and I haven't the slightest doubt that that was so.

Dr. Swank: The people with whom I talked in Addis seemed to indicate that they still had a good supply of leopards, although they checked the records and said only one leopard was taken legally by hunting in 1976. They indicated they

would encourage the legal hunting of leopards if this could be brought about and, of course, they were also concerned about poaching. They rather thought that poaching was decreasing but this was based on the fact that they were catching less poachers.

Mr. Brown: Well, certainly it couldn't be getting any worse. In the old days essentially it was a well organized ring of capitalists, if you like, and it was said to be headed by the crown princess. She was sort of the guiding spirit in this. It is the same situation that exists at the present here. Denis (Zaphiro) can doubtless tell you more about that than I can. But it was always said that one of the reasons why nobody would do anything about it in Ethiopia was because it was the prerogative of the royal family. Well, of course, they are all in court now, or dead, and unless some other person has taken up this lucrative export trade it would seem that the trade might have been disorganized to some extent by the removal of the well placed persons who might have been organizing it, but to be honest, I don't know. I would say that the position could hardly be worse than it was. I do know that leopards did survive in what you would call quite unlikely conditions in Ethiopia. For instance, in 1974 when I was there on the road in a pass that goes down the Simian Excarpment I found the tracks of a large size male leopard within a few hundred yards of human cultivation in a dense population of human beings. He was obviously living in one of the big gorges, and coming out eating domestic stock at night. It is surprising that an animal was able to survive under those conditions, surrounded by hundreds of people with rifles who would have gladly taken an opportunity to sell the skin.

Certainly in the past a large quantity of leopard skins were exported from Ethiopia, but perhaps many of these skins did not originate in Ethiopia, but were brought in from other places, from the Sudan, from Kenya. This was the obvious way of getting rid of a poached skin without having to pay anybody.

Dr. Swank: It seems that wherever you go there is a tendency to say that many of the skins shipped out of a country did not originate there. In Kenya they say that the skins may have originated in Tanzania or Ethiopia or Somalia. In Ethiopia they say the skins came out of Kenya, Somalia or Sudan.

Mr. Brown: There just can't be that many leopards in Somalia, so we can discount Somalia as being the source of many leopards at any stage. In Ethiopia there is a lot of good leopard habitat and I suspect that the leopard there is as common as the species can be in natural conditions. In the Serengeti they estimate one leopard to each 5 square miles, isn't it, and Bill Woodly estimated 500-600 in the Aberdare National Park, which is very dense and is difficult to believe. But in the forest in southwestern Ethiopia there must be several

thousand, but there never has been a detailed study of the animal in Ethiopia, and I don't see how one would do it.

Dr. Swank: As we discussed many times in meetings of the Scientific and Technical Committee of the East African Wildlife Society, getting reliable figures on leopard populations would be next to impossible. We could never come up with a procedure that was satisfactory to anyone.

Mr. Brown: Well, in the highlands of Ethiopia, there are so many people that this could contain only a score of leopards here and there. They certainly could not be abundant. In the Danakil and the area next to Somalia the people are all pastoralists; they have rifles and they kill all carnivores they see. Besides, the area is so heavily overgrazed that there would be very little prey for a leopard. In the northwest the area is heavily overgrazed and besides, the leopard in that area would be heavily poached if it existed there at all in recent times. That leaves you essentially with the area in the southwest along the Sudanese border to the Omo River and Borana just north of northern Kenya. I don't know what the status of the leopard might be in Borana at all, but I do know that as late as 1970 there was a good population of leopard over much of the southwestern area. But if you look at it on the map it is a comparatively small segment of Ethiopia.

Dr. Swank: The people I talked with in Addis said that deforestation has had a tremendous effect. Now only about 3% of the area is in forest according to them, whereas at one time it was about 90%.

Mr. Brown: Well, I would say that considering the aridity of the country, I doubt that much more than 40% of Ethiopia was ever forested, at least in recent times, but that is only my opinion. But there may be more forest that one at first believes. In 1969, I estimated that the block of forest in southwestern Ethiopia was about 3,000 square miles, more or less untouched, and in that a very high density of leopards at that time. So if you considered that as one leopard to 5 square miles, there would be 600 leopards in that area. And if you took the same density in other areas of southwestern Ethiopia there would be 2,000-3,000 leopards in southwestern Ethiopia all together. But again, I really have no concrete figures to go on. All I can tell you is that when my brother was warden in the Omo there was one pair of leopards to every 5 or 6 miles along the Mui River, that's linear miles, and they ranged out from the river. That would be a pretty high density. They were confined to riverine forest, so that was probably an unnatural high density, and wouldn't be repeated over a big area. Again, one can't simply do these things without getting better figures than we now have.

Dr. Swank: If the poaching was brought under control do you

think it would be feasible to permit some hunting of leopard in Ethiopia?

Mr. Brown: In my opinion, certainly yes. I have never been against controlled hunting anywhere, and I wouldn't be in this country now if people are prevented from hunting as a part of the large scale poaching that is going on. The number of hunters coming to legally shoot leopards is negligible compared to the numbers taken by poachers all the time and selling the skins on the black market and it's ridiculous to suppose anything else. I certainly think from 100 to 200 leopards could be taken annually in southwestern Ethiopia if the poaching and taking of leopards for other reasons could be stopped. The leopard, like other cats, is supposedly capable of breeding up rapidly from rather low numbers if it is left alone. The real danger to the leopard, I think, is the use of the skin in the fur trade and in curio shops. If that was to be stopped and leopards could be taken only by legitimate hunting, then in my opinion the leopard would be in no danger anywhere in Africa, or anywhere else in the world.

Dr. Swank: Certainly the hunting take has always been low.

Mr. Brown: Unless you stop the commercialization of the trade in leopard, there isn't really much hope of controlling the poaching because it's the people at the other end who buy the skins that cause the trouble. If there wasn't the market these chaps wouldn't go out and poach them.

Interview with Mr. Teshome Ashine, Director of Wildlife Conservation Organization and Mr. Andeberhan Kidane, Biologist, Addis Ababa, Tehiopia, on January 12, 1977, conducted by Wendell Swank.

Mr. Ashine: The leopard is not really endangered in our country but we do believe the destruction of the habitat and illegal taking of leopards have not been properly controlled. The future of the leopard depends upon proper control of habitat and the illegal hunting.

The taking of leopards legally in this country would not jeopardize the leopard population in Ethiopia.

We used to have a number of hunters from the United States come to Ethiopia, but I don't know how many we have now.

I don't think a seal will stop the movement of skins because a hunter who did not get a leopard would go into the market and get an illegal skin. Of course, if this was certified by the Government this would reduce the possibility of getting an illegal skin. Also when a non-resident hunter comes to Ethiopia he must have a professional hunter and a Government game guide with him; so we would know if he took the leopard in the field. Only about 3 out of 5 hunters going after leopards gets one. Certifying that a leopard was legally taken would not be a probelm to us.

The fact that we are issuing license to take leopards indicates that we are in favor of the hunting of leopards in Ethiopia.

I feel the cheetah population is better than the leopard, but I don't know what the biologists say.

Mr. Kidane: The cheetah is more fragile than the leopard. He is not as adaptable, even though we have a lot of cheetah. I would say he is more fragile.

We have problems with stock depredations by leopards, and our people say primates are increasing in some areas, so we must consider protecting the leopard in order to control primates.

Answers to questionnaire, prepared by Mr. Teshome Ashine, General Manager, Wildlife Conservation Organization, and Andeberhan Kidane, Biologist.

Question 1. Do you consider the leopard rare or endangered in your country?

The leopard is not rare or endangered in our country, but will continue to decrease in population if habitat destruction and illicit hunting is not curbed down as low as possible.

Question 2. If so, is this status based on present populations or trends in populations that will be brought about by future development?

This status is based only on the present populations, but future trends of population will depend on the conservation

measures given to the animal and its habitat.

Question 3. Upon what basis (personal experience in the field, reports from persons in the field, literature) do you draw your conclusion?

This conclusion is drawn from a combination of field experience of our experts, from the number of skins confiscated from poachers and from the basic knowledge of the animals' biological aspects.

Question 4. If the United States should allow the importation of skins of legally taken leopards by sport hunting would it jeopardize the leopards in your country?

The importation of skins of legally taken leopards by sport hunting would not jeopardize the leopard population in the country provided that importation is subjected to rigorous structure of legal and economic constraints. Such legal and economic control, if strictly implemented, can safeguard leopard skins from finding their way into commercial channels which could threaten leopard populations to a great extent.

Question 5. Does your country have sufficient enforcement capabilities to prevent skins from leopards taken illegally getting into commercial channels if the U.S. permits importation of skins of leopards legally taken by sport hunters?

Our country may not have sufficient enforcement capabilities to prevent skins from leopards taken illegally getting into commercial channels, but it may be possible to strengthen our law enforcement in the future.

Question 6. Do you have the administrative structure to certify that leopard skins brought in by hunters were legally taken in your country?

We have the administrative capability to certify that any leopard taken by a visiting sport hunter was taken legally in this country.

Question 7. Would you anticipate any problems in having seals issued in the U.S. placed on leopard skins that were to be imported into the U.S. should the U.S. Government decide to permit such importation of skins of leopards taken by sport hunters?

We do anticipate problems of the issued seal to the sport hunter if not certified (or duplicate is not given) by the authorized organization of the country of origin. That is to say, the sport hunter might well be tempted to buy illegal skins should his hunting fail.

Interview with Hammoud Abu Sineina, Director of Wildlife Administration, Republic of Sudan, Khartoum, on January 10, 1977, conducted by Wendell Swank.

Mr. Hammoud: Conservation started a long time ago in the Sudan. We have records going back to 1903.

As for leopards, there are some places where there are plenty and in other areas they are getting scarce. There are a few pockets in which the leopard population is doing well. Myers gives the distribution in the Sudan as south of Khartoum, but as a matter of fact, we still get leopards bothering domestic stock near the Red Sea. How many are there and whether they are increasing or decreasing we do not know. The leopard is very difficult to study; it can hide itself, it moves by night, and in rocky country you can't even find tracks.

We think in general the leopard is getting scarce, but how scarce we don't know. We must study the situation, and discuss this between my colleagues and myself before we decide whether we are going to permit a few leopards to be taken under special license. This will be a very important decision because we are interested in attracting tourists here to see our wildlife and we are more interested in people using the camera instead of the gun. Nevertheless there are some cases where we may want some leopards taken.

Our animals are on schedules. Schedule one contains animals that are completely protected. Schedule two, in which leopards occur, comes under our jurisdiction and we can deny the taking of any animals on this schedule.

Actually, we have hunting of leopards in a big part of the Sudan. In the western part we have stopped hunting of leopards where we have had a big increase in baboons, and as you know the leopard is the primary predator on the baboon.

We have had no problem with poison. Poisons and insecticides are controlled by the veterinary services in the Sudan and the local people cannot buy poison material. Poisons are only available to government officers.

If the U.S. decides to allow the skins of leopards legally taken to be imported into the country, the Sudan has the administrative capability of certifying that the leopard was taken in accordance with Sudan laws. All game skins from Sudan must have an export permit with a seal and signature of an official. This has curtailed trade in leopard skins in the Sudan.

There is more than one way of getting leopard skins; they are either shot on licence, confiscated, or found dead. The confiscated and found dead are definitely the property of the government, under existing laws. These are used for scientific study or maybe a few are presented to VIP's, but not more than 5 per year.

Hunters can legally take a leopard in Southern Sudan but he shall have to pay a heavy royalty for it. We think, but we are not sure; we will have to go into this before we answer your questions in writing.*

We think your proposal of putting a seal on a skin taken legally by sport hunting is a good idea.

*Hunting of leopards now prohibited in southern Sudan. See interview with Tony Archer.

Interview with Mr. E. T. Matenge, Director, Department of Wildlife, National Parks and Tourism, Republic of Botswana.

Interview conducted at 4:00 p.m., January 19, 1977, at the headquarters offices of the Department of Wildlife, National Parks and Tourism, Gaberone, Botswana, by James G. Teer, on tape.

Dr. Teer: Do you consider the leopard rare or endangered in Botswana?

Mr. Matenge: Well, thank you, Mr. Teer. For the first question, as you know, I've been about three years now in the Department of Wildlife and National Parks. You know this already. As the man in immediate charge of the work in the department. I have been concerned to look at the status of animals which are generally regarded as endangered or rare on an international scale and try to find out what our situation is here in Botswana. The leopard is an animal in Botswana which is hunted on a license. There are regulations governing hunting of various animals, of course, as you know, as in any other country. The licensing of the hunters* to hunt leopard is carried out for non-residents, but as foreigners coming to hunt into Botswana, through the various offices in Botswana that fall directly under the headquarters department, the headquarters of which I'm in charge. We require through the licenses system that people should endorse their licenses showing kill once they have hunted so as to enable us to consider the success rate in the hunting process in comparison with the animals that have been sold. In fact, we begin by setting a quota on an animal basis--the number of animals that may be hunted. The leopard also falls into the category of animals which are hunted on a quota; the licenses may not exceed that quota. We then sell the licenses. At the end of the year we review the returns from the hunters and we determine the rate of success. This gives us an indication as to whether the chances are that the leopard is being threatened with extinction or not. From our records at the present moment, the indications are that we are not dealing with any leopard population that is either rare or endangered. It is extremely difficult, of course, to go out into the bush and hope to see a leopard anytime, but at the same time, several tracks and signs are indicated whenever some of my staff go into the bush,

*"Hunters" includes all licensed hunters, namely, non-residents (foreigners), residents (those who stay in Botswana although they are not citizens) and citizens including tribal hunters as there are tribal regulations which govern leopard hunting under a tribal license and on a determined annual quota. In the past, however, we have had difficulty obtaining hunter returns from tribal hunters; therefore, it has been impossible to obtain reliable data to determine tribal hunter success.

go out on patrols, etc., etc. From the hunting returns also, there is real indication that you could not under the present setup say that the leopard is either rare or endangered.

Dr. Teer: Do you consider the commercial uses of leopard skins in fashioning curios and other kinds of coats and that sort of thing to be a serious problem in leopard numbers, in retaining leopards in Botswana? Is there some system in Botswana by which leopards can be taken other than by sport hunting?

Mr. Matenge: Well, that is true. Leopard can be taken in various forms other than by sport hunting. The point I want to make is other than taking of leopards by sport hunters--in fact, sport hunters are required to export the leopard skins only under an export permit which is issued by the department here. To export leopard skins without these permits obtained from us is contravening the law and the persons can be prosecuted. One way leopards are taken other than by sport hunters is, of course, through the local hunters in Botswana. Local hunters--a few of them, of course, do hunt leopards; obviously, this is also for commercial purposes, lightly speaking. They do sell to various trophy dealers that are found in various shops out in the country. Other than this, the leopard may be hunted in defense of stock. In this case, it is true also that the leopard skin ultimately finds its way into the trading shops through the trophy dealer system. We have trophy dealer regulations*. The transactions for the various skins of game animals--these regulations require that the trader holds a trophy license, a trophy dealer, under the farmer proclamation. Endorsed on the returns is the person from whom he obtained a skin of an animal, including a leopard, of course, and also he must indicate the price he bought the animal for. After two months, he submits the returns which is a requirement of the law. This gives us an indication of the number of transactions of the various species including the leopard. First, this is one way in which the leopard finds its way into various uses and ultimately, of course, for export.

Dr. Teer: Has there been any studies made of leopard numbers and distribution in Botswana?

*Trophy dealer regulations: These are made under the Fauna Conservation Proclamation Act. Any person who deals in trophies is required to hold a trophy dealer license, to maintain a day-by-day transaction form on which to record the name of the person who sells trophy, date of sale, the number of the license under which the animal was killed, the purchase price and the name of the person to whom the trophy is sold as well as the date and price for which the trophy is sold and if exported, the export permit number. The trophy dealer is also required to submit bi-monthly returns of transactions to the Department.

Mr. Matenge: No. So far there hasn't been any intensive studies directed solely at the leopard population as such. We do have researches wherein they are particularly concentrated in the northern parts of the country. While these are not directed at the leopard populations, they do indicate generally what sort of population we're dealing with without giving specific or even actual numbers. I wouldn't say that we can really make any judgements based on our--based on these studies.

Dr. Teer: A good part of Botswana is national parks and game reserves, and in these parks and reserves, there must be very high numbers of leopards?

Mr. Matenge: Well, I can quote a number of these game parks and national reserves where you can find the leopard. It is not to say that you will find it anytime you want to get into the game preserves. But the Chob National Park, there certainly is. There are good indications of leopard populations in Moremi Game Reserve. The largest national park, a sort of game reserve which is the Central Kalahari Game Reserve, obviously contains a good population of leopard as well as the Khutze Game Reserve, and the Gemsbock National Park toward the south-eastern part of the country. The areas under conservation status--national parks, game preserves--the size of those areas is about 17 percent of the country. Botswana's land size is 750,000 square kilometers.

Dr. Teer: Are there plans to gazette some other areas in Botswana for intensive wildlife management practices?

Mr. Matenge: We have been moving in this direction. We are unfortunately hampered by the lack of research information to state exactly which areas. We have a countrywide-scale project which will be used to determine areas of good wildlife populations, areas which we would like to secure as wildlife management areas where we can restrict other uses without actually declaring these areas as high wildlife conservation areas like national parks and game preserves.

Dr. Teer: Do you have any data at hand on how many permits were sold to safari companies, say, in 1975 and 1976, and how many of those resulted in kills?

Mr. Matenge: Well, at the present moment I couldn't really give you any accurate data for 1976. We will not have processed the figures yet, but I can give you some indication of the leopard licenses that were sold, and the returns as they have been indicated. Say for the period '74-'75, here we had a quota of 127 and these licenses were sold and we have and indication of 8 returns indicating kill. For 1975, we had a quota of 30 and indications of 11 killed from the recreational hunting, sport hunting by safari companies.

Dr. Teer: That's for the entire country?

Mr. Matenge: That's for the entire country; it more or less relates to the area where safari hunting businesses are conducted.

Dr. Teer: In concession areas?

Mr. Matenge: Yes.

Dr. Teer: Do you have any other information you'd like to add to the questions that we discussed?

Mr. Matenge: From the trophy dealer returns, and this is as I said, this system is slightly used for accounting of trophies for local people, I doubt hunting, solely for commercial purposes or to account for defense of stock. Trophy dealer returns indicate that purchases of leopard skins for periods, let me see, if I take from 1969, 122 skins were purchased by trophy dealers throughout the country. For period 1972, 51 were handled by trophy dealers; and in 1974, 39; and in 1975, 55.

Dr. Teer: It seems to be going down over the years from a high in 1969 to 1975.

Mr. Matenge: Yes, that's true. The trophy dealer system started sometime about 1968. Prior to that, there were no regulations and when we enacted regulations in 1968, we began to have some controls over the trophy dealer system. Controls by trophy dealer regulations and the required returns cut down considerably on purchase of illegally obtained trophies from 1969 onwards. Trophy dealer returns also gave the department the opportunity to review the magnitude of the trophy dealer business, particularly on high trophy animals prone to intense commercialization and to cut down considerably on legalized off take members, at the same time increasing the hunting license fees. Leopard is in this category of high trophy animals, and is protected game hunted legally on special license only.

Dr. Teer: Thank you very much, sir.

Mr. Matenge: As far as I can see from Botswana'a development now, you have to reconcile the various land uses. The cattle industry is one of the biggest industries in Botswana. Leopard populations, as I've indicated, are not threatened; in fact, there are good populations in Botswana. Now, there are some places where they come face to face with the cattle industry and they do damage. Now the plan for the destruction of leopard in those areas is very great. So you need to reconcile this situation by insuring that these animals can continue to be hunted where they are available but protected where you feel they must continue to retain good populations of these animals. The hunting of leopard in these areas is, in fact, beneficial, economically, because, as you may be aware, the license fee for a sport hunter to hunt leopard is P300. I don't know what

this is in terms of U.S. dollars, but it's roughly about $380, or something like that. From that end, you can see that it is an economically important animal as well, but to say that you must just keep it conserved without utilizing it would really be destructive in the longterm to its populations.

Dr. Teer: Thank you, sir.

Mr. Matenge: You're welcome.

TELEPHONE: 2260: 3264: 2388

TELEGRAMS: GAME GABORONE

REFERENCE: WP/CON/4/1 1

REPUBLIC OF BOTSWANA

DIRECTOR

WILDLIFE, NATIONAL PARKS & TOURISM

P.O. BOX 131

GABORONE

PLEASE ADDRESS ALL OFFICIAL COMMUNICATIONS TO THE DIRECTOR

4th May, 1977

Professor James G. Teer,
Ecological and Game Management Consultant,
1204 Walton Drive,
College Station, Texas 77840,
United States of America.

Dear Professor Teer,

I refer to the transcript on tape of the discussion Teer/Matenge on the Status and proper use of the leopard in Botswana. I regret the delay in responding to this matter.

The following need to be changed:

(a) page 2: The sentence which refers to the licencing of hunters to hunt leopard should be read in the context that "hunters" includes all licenced hunters, namely, non-residents (foreigners), residents (those who stay in Botswana although they are not Citizens) and citizens including tribal hunters as there are tribal regulations which govern leopard hunting under a tribal licence and on a determined Annual quota. In the past, however, we have had difficulty obtaining hunter returns from tribal hunters: therefore it has been impossible to obtain reliable data to determine tribal hunter success.

(b) Also the words: "I prefer to understand hunting in Botswana" should be ignored as meaningless.

(c) Trophy dealer Regulations: These are made under the Fauna Conservation Proclamation Act. Any person who deals in trophies is required to hold a trophy dealer licence, to maintain a day-by-day transaction form on which to record the name of the person who sells trophy, date of sale, the number of the licence under which the animal was killed, the purchase price and the name of the person to whom the trophy is sold as well as the date and price for which trophy is sold and if exported, the export permit number. The trophy dealer is also required to submit bi-montny returns of transactions to the Department.

(d) page 4: "Coetzee" Game Reserve to read "Khutse" Game Reserve. No hunting is allowed in Prks and Game Reserves.

(e) page 6 and 7: The answer to your question "It seems to be going down over the years from a high in 1969 to 1975" was meant to incorporate the following trends:-

(i) Controls by trophy dealer regulations and the required returns cut down considerably on purchase of illegally obtained trophies from 1969 onwards. and

2/...

TELEPHONE: 3260: 3264: 2399

TELEGRAMS: GAME GABORONE

REFERENCE:

REPUBLIC OF BOTSWANA

DIRECTOR 71

WILDLIFE, NATIONAL PARKS & TOURIS

P.O. BOX 1

GABORO

PLEASE ADDRESS ALL OFFICIAL COMMUNICATIONS TO THE DIRECTOR

(13) Trophy dealer returns also gave the department the opportunity to review the magnitude of the trophy dealer business particulary on high trophy animals prone to intense Commercialisation and to cut down considerably on legalised off take members, at the same time increasing the hunting licence fees, Leopard is in this category of high trophy animals, and is protected game hunted legally on special licence only.

Yours sincerely,

E. T. Mutenge
DIRECTOR OF WILDLIFE, NATIONAL PARKS AND TOURISM

ETM/KM

Interview with Mr. Alex Campbell, Director, National Museum of Botswana, Gaberone, Botswana.

Interview was conducted at 11:30 a.m., January 19, 1977, at the National Museum of Botswana, Gaberone, by James G. Teer, on tape.

Mr. Campbell was the Director of the Botswana Wildlife and National Parks Department for years untill 1974, when he became Director of the National Museum. He has had a total of 17 years of experience in wildlife work in Rhodesia and Botswana.

Dr. Teer: Do you consider the leopard rare or endangered in Botswana?

Mr. Campbell: I don't think it's endangered. I do think that in very large areas of the country, it's rare. This, I don't think is going to be affected by heavy utilization of the animal.

Dr. Teer: Do you think sport hunting is a proper use of the leopard and is poaching a problem in terms of numbers of leopards still remaining in Botswana?

Mr. Campbell: Let's take the second half of your question first. I would say that today poaching is no longer the problem that it was 10 years ago. Ten years ago we had something like 120 storekeepers throughout the country who were dealing in wildlife trophies, and the price that was paid to the local person for a leopard skin ranged between about 50 and 60 U.S. dollars. The trader was exporting it in the raw state and selling it mainly in South Africa and quite a lot in Rhodesia also, and he was getting, using today's conversion rates, about 200 U.S. dollars for an average skin. So he was making a tremendous profit on this, and it was very good business. However, during the last 10 years, 12 years really, we've cut down the number of these traders to about 25, and of those only five or six of those deal in leopard skins anymore. And we have fairly tight control on how they deal in leopard skins. They have to be recorded in a register and they have to be numbered, both in the register and on the skin. That number follows the leopard skin around wherever it goes. The trader is not allowed to buy the leopard skin unless the person who is selling it can produce some sort of valid reason for being in possession of it.

Dr. Teer: Can the native peoples take leopard skins for barter or trade with these traders?

Mr. Campbell: Well, yes, they can. This is the only way they can get rid of them themselves. There are two ways they can come into legal possession of a leopard skin. One is that they buy a license which is extremely rare, and the only people that I can think of who buy licenses are half-casters. They are fairly expert at poaching leopards. The other way they can obtain a legal permit is if they shoot the thing in defense of their stock, and if they prove to the local authority that they

did in fact shoot it in defense of their stock, and manage to get from the local authority a permit to sell it, so when they go off to the trader, they've either got to produce a license or else they must produce this permit. During the last few years, we've even cut down on these permits quite a lot, and in most areas today, when a chap hunts something in defense of his stock, the skin is taken away from him by the government which sells it. Then he is reimbursed depending on how serious the damage was to his stock originally. In the old days several people were known to take donkeys out into the veld and tie them up, and wait for generally lions but also leopards to kill them; thereupon they knocked the animal off and got quite a large return for their outlay. So that's the second half of your question, really.

What I was really trying to say was that you are always going to have leopards killed here in defense of stock. This is a stock-raising country. With the exception of national parks and game reserves, there's not a great deal of area left now that doesn't have stock attached to it or actually in it. So you are going to have considerable numbers shot every year in defense of stock, so-called.

How are you going to teach the local people that the leopard is valuable? They don't see its value in anything except cash terms and, therefore, if you can show them that when a visitor from outside comes here that he's prepared to pay up to, say, 350 U.S. dollars to hunt a leopard, then they start to realize that the thing is of some value. If you can later point out to them that a lot of this money, though it goes to the central government, is handed out to their district as grants for the construction of schools and payment of school teachers, etc., they then start to realize that the thing is worth money. So I feel on this basis--just from the educational basis, trying to show people that they should look after the animals because it's an asset that's worth money, it's well worth having tourist hunting. One thing, you must charge a really high fee. Fees in some countries of Africa are ridiculous.

Dr. Teer: Yes, that's right. When safari companies can charge as much as $3,000 to $4,000 for a safari, and the license only costs K50 for a leopard, as it does in Zambia for example, then there seems to be a disproportionate cost.

Mr. Campbell: You must mention the Zambia fee, which is low in the extreme. Of course, in Southwest Africa and South Africa, you can more or less shoot the things for nothing, and it's really left to the owner of the property to put a fee on the things. This works two ways. What does worry us here a bit is if a person is going to spend, say, it would cost about $6,000 for a 21-day safari--if he's prepared to spend that, then he should be charged a very much higher fee for something as rare and valuable as a leopard or a lion. We've had difficulty pushing our fees up here because governments, for instance, tend to look at fees charged in other countries in Africa. Some of them don't like being criticized too much. They consider

that some of the fees here today like R500, about $625, for a lion is extortionate, particularly when they're cattle killers. This is what they believed three years ago. Today, I believe they're considering bringing up the fee again. I feel that for a lion you could well charge a thousand U.S. dollars here in Botswana. I'm absolutely certain the people are prepared to pay $625 are going to pay $1,000, and in the same way, I'm certain that if someone really wants a leopard, then he's going to pay. I feel that it's only people who really want a leopard should be able to shoot them anyhow.

Dr. Teer: Would you think that the importation of skins of legally taken leopards into the United States would jeopardize the leopard populations in Botswana?

Mr. Campbell: No, I don't think so. I don't see how it could because we have a quota on all the leopards that can be hunted in each area. This quota is changed depending on conditions. We also keep statistics on what's being hunted, and we try to follow the movement of these statistics up and down and relate them to what's going on on the ground in each area. So I can't see there's the slightest problem with legally hunted animals. I think if we're convinced we're doing the right thing, one hopes the U.S. will think that we are also.

Dr. Teer: Does Botswana have documentation and other kinds of certifications that would separate the hunting kill; that is, those leopards that were taken by sport hunting, from the illegal kill that could enter the commercial hide business?

Mr. Campbell: Yes, I'm not really certain whether the new law has come in. We agreed to follow the I.U.C.N. convention in respect to international import-export permits for all these species. I don't think this has come in yet. When it does come in, I was rather pleased to see that you have to have the stamp of, in this case, it would have to be the British High Commissioner, on all your export permits. It was agreed to waive this here because the department was considered to be reasonably efficient. Once that's in, I haven't the slightest doubt that there's no problem whatsoever.

Dr. Teer: I think world conservationists would like to see, of course, all kinds of commercial exploitation of leopards stopped. Leopard skins are used in fashion, curios, and the like. Our government would hope, I think, that this could be stopped. One of the devices that has been discussed to identify imported leopard skins that are taken legally by sport hunters from skins that have gotten into the illicit trade would be a device such as a boxcar seal, a numbered seal, that could be issued to a hunter when he goes abroad to hunt by the U.S. Government. If he kills a leopard, this seal could be attached through the orbit and locked. As you know, once these seals are opened, they're broken forever. Then when the hunter brings his skin

back to the United States for importation, he'd have no difficulty in getting it through our customs because he'd be identified with that numbered seal. This is one of the things that's been discussed as a method of reducing illegal imports or the trade in commercial fashion, etc. Would you think that might be an improvement over what we have now?

Mr. Campbell: Oh yes. I think anything that makes it more difficult to transport an illegal skin is definitely worth doing. We do have to have three documents now to get a skin out of this country. You've got to have your initial license, you've got to have controlled hunting area permit, and you've got to have an export permit. So already it's much more difficult for a person than it was. I think what you've just suggested should satisfy the American authorities.

Dr. Teer: Has there been any studies made in Botswana in which densities and distributions of leopards have been charted?

Mr. Campbell: Not to my knowledge. We did have a chap here--I've forgotten his name--three years ago who was doing a general study of leopards throughout Africa. But it was purely a paper study, nothing down on the ground. He was just doing more or less what you're doing now--just ask questions.

Dr. Teer: Mr. Campbell, is there any other information you'd like to add to what we've discussed already?

Mr. Campbell: Well, one of the things that's perhaps relevant in Botswana is that, to the best of my knowledge, even today, there's nowhere in Botswana where leopards don't occur. For instance, around Gaberone you've got some fairly hilly country, and within 60 miles of Gaberone, you've got 200,000 people living which is somewhere between a quarter and a third of the population of the whole country. We've got a farm about 12 miles south of Gaberone. We've still got leopards on it, and I know other farmers in the district have leopards. They are killed occasionally in defense of stock. For instance, government has killed two or three leopards on their breeding farm about 20 to 30 miles south of us. Now you get away from this area here--this area within 60 miles of Gaberone--out in the desert, there're practically no people there and I would say that there are less leopards in total square miles out there than there are here around Gaberone with all these people. I think it's purely the environment which is a difficult one with most of the native species moving around an enormous amount. You go up the the riverine areas like along the eastern border, along the northern border, through the Okovango Delta, and immediately the number of leopards goes up enormously. You go into any of the rocky areas, and the number of leopards goes up. Go out into the desert, and it's very very low indeed. So low that

it's almost impossible to find leopard in the desert except with dogs.

Dr. Teer: Thank you very much.

Interview with Mr. J. G. J. de la Bat, Director, Department of Nature Conservation and Tourism, South West Africa, and Dr. Eugene Joubert, Chief Research Officer, of this same organization.

Interview conducted at the headquarters office of the Department of Nature Conservation and Tourism, in Windhoek, South West Africa at about 9:00 a.m., January 21, 1977, by James G. Teer, on tape.

Dr. Teer: Mr. de la Bat, and Dr. Joubert, do you consider the leopard as an endangered species or rare in South West Africa?

Mr. de la Bat: Well, I can only give you my personal view and my experience of the past 23 years. As a professional officer, one shouldn't jump to conclusions or give one's opinions if one can't support them with sufficient scientific facts. This is a huge country, 725,000 square kilometers, very thinly populated, and with lots of ranching area where these animals still occur. It is my firm conviction that the spotted cats in South West Africa are not endangered at this moment. I say this for the simple reason that I've gone into the literature, I've travelled very extensively in this country, I know my game reserves--we've got a vast number of them, huge areas--I've spent ten years up in Etosha as a biologist, later as Chief Game Warden. The general impression I have is that when South Africa took over from the Germans in 1915, the number of watering points was very limited--only natural springs occurred and the animals concentrated around there, and they had to go to water to drink. Of course, you get certain areas where leopards do not drink water; they kill game and they drink the blood. But I'm convinced that with all the new boreholes being drilled, thousands of dams being built, with bush encroachment resulting from overgrazing, that the population of leopards did, in fact, increase. We've got some figures--we can read them out to you. Maybe we should go into this later--the figures and statistics.

Anyhow, I'm convinced that these animals increased on account of domestic cattle, sheep, and goats, etc., being brought in.

Dr. Teer: And water-holes?

Mr. de la Bat: And water-holes, yes. This has been borne out by the fact that old German farmers in certain areas came here in the 20's, many people before that. They assured me that leopard, and especially cheetah, now occur in parts where they never used to occur.

Dr. Teer: Is there serious conflict between spotted cats--leopard and cheetah--and the domestic livestock farming?

Mr. de la Bat: Yes, there definitely is. This is one of our biggest headaches, especially with karakul farming. A good ram can cost you anything up to R5,000, and if you get a spotted cat going into a kraal, it can kill a few thousand rand worth of animals a night. But there are, of course, huge areas especially up in the mountains and the deserts where it is not farming area and where these animals don't bother the farmers. You also have farmers, especially in the vicinity of Windhoek, and in the Khamas Hochland, where you still have sufficient game for these leopards to feed on with the result that they do not bother the farmer. In certain areas, there is a very definite conflict and the farmer is most unhappy with the fact that we have put the leopard and the cheetah under total protection.

Dr. Teer: What provision do you have for the farmers to protect their livestock? Can they take these animals in defense of property?

Mr. de la Bat: They can only take them in defense of property. It's very difficult, of course, at the moment; they are totally protected. They are more, so to speak, royal game, and fines are very heavy for anybody hunting, shooting, or killing them. If he catches the animal at night in his kraal, he can shoot it. Then he must report within 10 days to the nearest police, and we usually have an investigation. Of course, it is very difficult to prove whether the animal actually attacked cattle or not. I can assure you that if I were a farmer myself, and saw a cheetah or a leopard in the vicinity of one of my herds, I would shoot it. This is what happens, I think.

Dr. Teer: Do you consider poaching and smuggling of spotted cat skins to be a problem in South West Africa?

Mr. de la Bat: I think our control is not too bad, especially with live animals. It's practically watertight. We've got very strict control over the export of live animals. It's illegal to buy and sell skins. Only the man who shot the animal can have the skin in his possession. I know that skins do leave the country. You can't stop everything. They just roll it up, put it in the car and carry it to a neighboring area and export it from there. It is not a very big business at the moment.

If you want to have the official figures for 1975--skin exports, 75 cheetah skins; leopards, 40; other small cats, 243.

Dr. Teer: Were these live animals?

Mr. de la Bat: Skin exports. And skin exports last year (1976), 70. Weren't these live animals?

Dr. Joubert: No, there were only two live animals exported last year. The 70 skins you refer to were the skins for

which there were permits.

Dr. Teer: That's not a very large number?

Mr. de la Bat: No.

Dr. Teer: Was there a period in the recent history in which these animals were being exported to South Africa as live animals?

Mr. de la Bat: Yes, we actually encouraged farmers not to shoot leopard and cheetah, and the government paid them. If the government put out a trap, they paid the farmer R50 a head, or when the farmer caught it himself, R100 a head. We exported 70 live cheetah and leopard--mixed bag--to parks in the Province of Natal. Then we issued permits to the game dealers to buy these animals off the farmers. There was a very big market overseas, not so much for leopard but moreso for cheetah because cheetah in captivity don't breed very often. In other words, they bought up cheetah and the price rocketed. The thing that worried us was that the farmers didn't catch the cheetah and leopard that bothered them. They actually went into areas where these animals caused no damage and caught them for profit. Then came the Washington agreement and we completely clamped down on the export of live animals. We still do issue a few permits controlled by proper scientific authority, but exports are down tremendously.

Dr. Teer: When you see a need for capturing cheetah for restocking--such as those that went to South Africa to Kruger Park--then that is a legitimate use?

Mr. de la Bat: Yes, that's a legitimate use. We also have the problem that we introduce something like 50 leopard and cheetah coming from farming areas into the Etosha National Park. But they become disorientated and you never know what kind of diseases you could introduce. You've got to keep them at least three months in captivity. After you release them, lots of them roam back like cats. They go back home. They leave the park again. You also disturb the natural balance of predators in your park by introducing strange ones. Actually, we've got a national committee for nature conservation where all the provinces meet and discuss their problems and I was instructed by my government to ask them whether they can take our surplus of cheetah and leopard. They said no; there wasn't room for them. So we don't know what to do with these animals.

Dr. Teer: Do you consider the possibility of the United States allowing the importation of trophy animals--leopard that have been killed by sport hunters--to have an adverse effect on leopard populations in South West Africa?

Mr. de la Bat: Actually, it would please the farmers very much if they could get some of the money back to pay for the destruction caused by these animals. There is, of course, always the possibility that people could exceed the bag limit or something could happen, you know, that they shoot more than they are allowed. On the other hand, all trophy hunters must get government licenses. They are controlled by professional hunting guides and they are also checked at the airports when they leave. So there is a definite control on how much they take out.

Dr. Teer: They must have a license and an export permit and all of these documents?

Mr. de la Bat: That's right. Also the hunting guide, the professional hunter who takes out, loses his license if anything illegal happens.

Dr. Teer: Is there a license for traders to buy leopard skins--spotted cat skins--from native people?

Mr. de la Bat: At the moment they're not allowed to buy these skins. Granted a few get through the back door. We've got huge reserves up north and I know illegal dealings are going on, but I don't think on a very big scale.

Dr. Teer: Dr. Joubert, have there been any studies where leopard numbers and distribution were charted? Has there been anything done on leopard in South West Africa?

Dr. Joubert: The only thing we did was a questionnaire survey in 1973. Now it's debatable whether one can use the information we got from these questionnaires. I think in view of the fact that we haven't got anything else, one might just as well use it. We got very good returns from the questionnaires. We covered the whole territory and we got back 66% which is a good percentage. According to these questionnaire returns, the farmers estimated a leopard population of somewhere in the region of 3,300, which we then decided to take for the whole of South West Africa, for all the regions.

Dr. Teer: It is a very difficult animal to census.

Mr. de la Bat: Yes, they migrate between one farm and the next and areas very difficult to census. One figure that stuck in my mind that I presented last year at the national meeting we had in Pretoria was that the farmers must report to us whenever they kill the animals. In a period of nine months, they killed 156 leopard and cheetah on their farms which killed domestic stock. So that gives an idea of the take-off. So there must be a considerable number, and if you look at South West, the whole northern part for 400 to 500 miles is fairly heavily wooded. These animals are difficult to get at. The cheetah are easily caught in traps, ect., but

leopard are very difficult to catch.

Dr. Teer: How many safari companies have concessions in South West Africa?

Mr. de la Bat: The story is different in this country. The safari companies must operate on private land only. We don't allow any safari companies or any shooting to be done on state land. So I think there are about five professional hunters. You know, they are really super-duper people--the so-called white hunter. They're very strictly controlled. We have a system whereby private landowners can declare their farm as a hunting farm. They can take guests on that farm.

Dr. Teer: They can take them for pay?

Mr. de la Bat: For pay, yes. Then we register them and inspect the premises and we test them and we license them. We've got about 100 hunting farms.

Dr. Teer: I guess some of these farms would take leopard and cheetah occasionally for sport hunting.

Mr. de la Bat: Yes, but they're not allowed to do so at the moment. They want to be allowed to do so.

Dr. Teer: These are the questions that I have, gentlemen. If there is anything else you'd like to add, we'd be most appreciative.

Mr. de la Bat: Actually, we thought it was rather a good thing that we have the Washington agreement to suppress some of the illegal things going on. But I think they went a little bit too far. We as a conservation department are now in the awkward position that the farmers come to us and say, I've got these animals on my farm. What must I do? I can catch them and give them to you free of charge. Just take them away. I don't want them any more. And we literally have nowhere to take them to. Then we must tell them 'shoot them', and they tell you, 'All right, I've shot them now,' and they ask, 'Am I allowed to sell them?' And they're very bitter about this. I think there should be a controlled back door for this kind of thing.

Dr. Joubert: I'd like to say something. There's been quite a problem in this country of cheetah taking cattle and other livestock. I think quite a percentage of this can be attributed to leopard. People very seldom see leopard, but they see cheetah quite often. I think a lot of the damage done by these spotted cats is wrongly attributed to cheetah. Don't you agree, sir?

Mr. de la Bat: Yes, I agree. I'll tell you this. We're

sitting here now in Windhoek in the Khomas Hochland, and if you drive five miles out, you're in a wilderness area, as I hope you'll see later today. We actually have leopard and cheetah coming onto the townlands. We've had lion here. So it shows you that the area is not domesticated. We don't plow the land. The rainfall is too low. We go in for ranching. Ranching leaves room for wild animals, and I can't see the situation changing for another hundred years. We're dependent on rainfall. We can only farm with cattle and sheep. So the farming practices won't change. As long as the farming practices don't change, you will have these predators.

Dr. Teer: And cheetah and leopard seem to be very adaptable?

Mr. de la Bat: Very adaptable.

Dr. Teer: They live where human habitation is very large, where settlement and farming are going on?

Mr. de la Bat: Yes.

Dr. Teer: Well, gentlemen, thank you very much.

Interview with Mr. Neels Coetzee, Director of the State Museum of South West Africa in Windhoek.

Interview conducted at the State Museum, Windhoek, South West Africa, at 2:30 p.m., January 21, 1977, by James G. Teer, on tape.

Dr. Teer: Mr. Coetzee, do you consider the leopard rare or endangered in South West Africa?

Mr. Coetzee: I do not believe leopards are as rare in South West Africa as is commonly considered by most of the scientists, especially those not staying in South Africa. On the other hand, I'm convinced that they are endangered. To describe rare or commonness is not so easy, especially if one doesn't have the statistics. We do not know what the natural predator-prey relationship should be. Sheep farming might have stimulated a population buildup during the pioneer stage and farm establishment years. This settlement period still happened in the 1930's in some areas and as recent as the early 1950's in parts bordering the Namib desert.
Those are things that we really do not know. So one can't say they are rare or they are common. It might be that what we regard as rareness might just be due to the natural balance. I've checked on some of the records by farmers who collected leopards on their farms throughout the last 30 years, and that certainly shows there are far less leopards around. These records will be handed to you. Density in both the historical and presentday position also varies in the different parts of the country due to habitat variation. In the mountainous areas, more particularly in the western escarpment, they are protected by nature in the rugged terrain, very large farms, and in other words, far lower predation direct by man on leopard. The large farms of South West Africa are definitely also encouraging factors as far as wildlife is concerned--not only leopard, but for most of the predator species. If you take the average of 5,000 to 7,000 hectares, which is normal in northern South West and twice that size to the South, and also the fact that most of the farms in the north are cattle and not sheep farms, compared to similar cattle farms of 1,000 to 2,000 hectares in South Africa. The larger farms directly associated with a smaller farming community.

I am convinced that the population per hectare in South West Africa is the lowest in Africa when one compares the areas where the farmers in the north are cattle farmers, compared to cattle farms of 1,000 to 2,000 hectares in South Africa, you can understand that the wild animals have a far better chance for survival here. The larger farms are directly associated with a smaller farming community. I am convinced that the population per hectare in South West Africa is, when compared to other areas where leopard occur, by far the lowest here.

I think that farming to a certain extent under limited conditions will actually be in favor of the spread of leopard. I say that largely based on definite figures ava able on the spread of kudu and the available of kudo.

Leopards are to a large extent like kudu. They definitely need open water. I admit that they can go without readily available open water; even I can go without open water in the Kalahari for a limited period. The occurrence of open water will play a major role in their dispersion. One should here consider the hundreds of thousands of hectares which now have permanent water on the farms, but were previously only open to these animals in the rainy season.

Dr. Teer: So you think the provision of water and the more wide distribution of their prey, such as kudu in part, can be responsible for an increase of leopards into farming areas.

Mr. Coetzee: Yes, I believe that it can be the case. It is theoretically possible. In the case of kudu, it is proven, and I think one can make that deduction for the leopard.

Dr. Teer: Mr. Coetzee, do you think the sport hunting, if it was allowed in South West Africa, through the game licensing program, could be detrimental to leopard populations?

Mr. Coetzee: I think the contrary, if it is properly controlled. The problem lies with control. If sport hunting can be controlled, if the control can be from both sides--here and in the States and any country dealing in pelts, then it will definitely bring the value of leopard up not only from an ecological point of view but also from a direct money point of view--an economic point of view. I am convinced that farmers will become more tolerant towards leopards. They regard them now as a menace and if one heifer is killed the farmer spreads the news and everybody hears about it. Even our radio programs refer to it--how many killed and things like that. I've had my fights with those people, but they keep announcing it, leopards killed and cattle killed. The same thing happened many years ago when they introduced trophy hunting of antelope. In the beginning, some people refused to cooperate. In the last couple of years, it has changed so tremendously. It has now reached a stage where the farmers are positive in their approach to game animals and antelope species are now recognised as not necessarily in direct competition with their cattle or sheep. I think it's far more positive than ever before.

Dr. Teer: And it's because they can get economic returns for having game and you visualize this as being a positive thing for leopards as well?

Mr. Coetzee: I believe it can be the case. It will not be as easy for the game animals, but it can happen. Provided

there is absolute control on both sides.

Dr. Teer: Is there an ongoing trade in leopard skins for the commercial market at the present time?

Mr. Coetzee: I believe there is one, a definite illegal trade. I don't have any figures or definite records that I can give you today, but I think it still happens. Even if it's a poor quality skin, a leopard skin still has a value to the indigenous people.

Dr. Teer: You stated that you believe that the leopard is endangered in South West Africa. What kind of information, or how do you arrive at this conclusion?

Mr. Coetzee: I am thinking about the future. The farmers are constantly erecting more fences. They bring in far better bred cattle, and some years ago with low cattle prices and not that good quality of cattle, I think they tended to ignore cattle versus leopard to a slight extent. With the improved farming, with class or stud cattle, which means that the cow is now worth three of four times more than it was previously, they tend to be far more aggressive in their attitudes toward leopards or towards predation. That is the main reason why they will become endangered.

Dr. Teer: Your definition of endangered is something that could occur in the future and you wouldn't say they were endangered according to the I.U.C.N. definition of them being threatened with immediate extinction unless something is done to recover their numbers?

Mr. Coetzee: No immediate danger; I'm thinking of the future.

Dr. Teer: One of the things that we've thought about--at least some of us--has been the use of a seal by which these leopard skins could be tagged and identified when they are brought back to the United States to go through our customs. This seal would be a boxcar seal that snaps shut and once it's broken, it's destroyed forever. A hunter could be issued one of these seals by the U.S. Government, and when the hunter kills the leopard, the seal could be attached through the orbit of the eye of the animal, and thereby identify the pelt as being a legally taken pelt. Would you think this might be an improvement or of some use in keeping commercial exploitation of leopards down?

Mr. Coetzee: In other words, this is a part of your control mechanism? I previously mentioned that I think legal hunting under strict control will have certain advantages. As a control method, it sounds a very worthwhile method to follow up. Because we do get visitors, trophy hunters, people that are

really interested in preservation but they also like to either have trophies or might be regarded as "upper class" hunters. It is presently, virtually impossible for them to take a skin back, to be criticized. One shouldn't restrict completely what you'd rather discourage and control. As a control mechanism, it sounds like a very good idea. Restriction is a negative measure.

Dr. Teer: Do you know of any research or inventories of leopard distribution and numbers that might be useful for this study?

Mr. Coetzee: I am familiar with the publication by Joubert and Mostert and am not in full agreement with the total numbers given. The error unfortunately lies in the source of their data: the farmers. One farmer might report exactly the same pair of leopards as his neighbours.

Dr. Teer: Two or more farmers could report the same pair?

Mr. Coetzee: A total of three thousand leopards seems to be quite a reasonable figure. I actually think there are more in South West. On the other hand, I have my doubts about 6,000 cheetah; I hope there are 6,000.

Dr. Teer: Is there any other information that you'd like to add to the questions and discussions we've already had, Mr. Coetzee?

Mr. Coetzee: I would like to bring these records to your attention. They are records kept by farmers and one should use them selectively. This farmer, for instance, Doll, stays some ____ miles south of Otjiwarongo and his data goes back to 1936.

Dr. Teer: These are records that this farmer kept on leopard numbers since 1936?

Mr. Coetzee: That's right.

Dr. Teer: Do they generally show a stable, or a decreasing or an increasing population?

Mr. Coetzee: A slight decreasing trend. Another record that I regard as reliable is that of Mr. Dunaisky. His records show a decrease in numbers live-trapped since 1965, but with a sudden increase in 1969 (two leopard in 1965; in 1966, none; in 1967, one; in 1968, none; in 1969, seven; in 1970-71, three; 1972, three). That rather indicates more or less towards a stable condition. If you go back to the very early years, things are quite different.

Dr. Teer: There are much fewer now than in the very early years?

Mr. Coetzee: Yes, in the very early years.*

Dr. Teer: Were these leopards being trapped to protect property?

Mr. Coetzee: Yes, this record also lists the number of calves being taken by leopards. This particular farmer was very much in favor of conservation and that is why he improved on the live trap. They wanted to trap them alive. He used to either sell them to collectors, and as far as we know, quite a number of the animals he collected went to nature conservation in Etosha.

Dr. Teer: These will be very valuable records. If you could let me have copies of these, we'd be pleased to review them for the report.

Mr. Coetzee: I'll do that.

Dr. Teer: Thank you very much, sir.

*NB. Please note that I was referring to the mimeographed report, "very early years" = 1930's.

Interview with Mr. Attila F. Port, Consultant in Environmental Conservation, Private Bag 13141, Windhoek, South West Africa.

Interview conducted at the home of Mr. Port in Windhoek, South West Africa at 12:00 noon, January 21, 1977, by James G. Teer, on tape. Dr. Eugene Joubert present.

Dr. Teer: Mr. Port, do you consider the leopard to be an endangered species or rare in South West Africa?

Mr. Port: I should say the leopard isn't anymore in danger. The reason is there's so many farmers who had done a lot through nature conservation in South West to protect the leopard--even black and white, all who help together and worked together to keep the leopard as a part of the fauna. I traveled last year from south to north and from east to west, and I've had many people in South West give me information about the leopards--how they migrate and where they stay permanently.

Dr. Teer: You've had many years of experience--you're a lifelong resident of South West Africa--and you must have seen the ups and downs of the leopard populations over the years. How was it in the early years? Were they abundant then and have they been used properly? Are they as abundant now as they were when you were a young lad?

Mr. Port: I should say it is more or less the same. In the olden days, if you would like to hunt a leopard, you had to go on horseback and hunt a leopard. Today, with fast traveling by car and plane from one district into another, to make a quick study of a leopard or to see are there leopards there. That then helps a lot, and really I should say, they are more or less the same.

Dr. Teer: What do you think the correct or proper use of the leopard should be? Should it be an animal that is used for its skins? Should it be used for sport hunting? Should we conserve it altogether? What would you think should be the proper use of leopards?

Mr. Port: I should say that the experiences I've had with leopards; it is a beautiful animal. It is a very, very clever animal, and protect the leopard up to a certain amount, and give it to trophy hunting only.

Dr. Teer: You don't believe it should be used for fashions and coats and curios and that sort of thing?

Mr. Port: No. Then people will really go in and make money out of it, and then the leopard will come in real danger.

Dr. Teer: Do you think that if the United States were to take the leopard off the endangered species list and allow sport

hunters to bring their trophies back to the United States legally, would it have an effect, in your opinion, on the leopard populations in South West Africa?

Mr. Port: I should say that it would really be a great idea if the United States will open the doors for the trophy hunters. They should allow the trophy hunters a certain amount, a quota, of leopards. They should give a quota--a certain amount--say, a hundred, or two hundred, two thousand. Something like that. We should sit and work out together.

Dr. Teer: The nature conservation branch of South West Africa sets a quota on the number of leopards that can be shot, and it would be my judgement that our government would not want to influence what they say is the proper use or what is the proper number to be taken. We are very much interested in keeping the legality of this when it comes to our country correct.

What do you think the leopard's relationship is to farming and domestic livestock? Is it a problem?

Mr. Port: No, there's really no problem. I should say you can say there is a problem, but it's a human being itself. So many farmers, they have really big ranches, thousands of cattle, and thousands of sheep and goats and game. Once a leopard catches two or three calves in a year, so then the poor animal must be shot and killed. The human being is selfish, to say instead of let the leopard have it. And really it's a pity, but that is education--we must talk more to the farmers. And in that line I've really done a lot, and persuaded the farmers not to kill it for killing one or two calves or something like that.

Dr. Teer: If the leopard has some value for sport hunting, this would in part pay the rancher or the farmer for his losses.

Mr. Port: That is correct. That's what I would have said just now. You are on the right way, and we must work on that line.

Dr. Joubert: How big a percentage would you say is taken by leopard and cheetah each year?

Mr. Port: It depends on how many game is in that area where the leopard is roaming, so to say. You see, if there is game, the leopard will take first kudu, or a springbok, or mountain zebra or Burchell zebra, whatever it is; game--steenbok, or duiker. And then the leopard, if there is no game, he can't stay hungry. He must go then for the calves. And that's the reason. We must look after our game on the farms. If you keep game and your livestock, a certain percentage, the leopard then will not do any damage to the farmer. I would say financial loss will be insignificant if he has game.

Dr. Teer: How much of the damage that is alleged to be done by

cheetah is in fact done by leopards?

Mr. Port: I would say that leopard--and we made a study for four years with Dr. Brian, Director of the Transvaal Museum; he came for four years to my place to make a study, but it was on the missing link--so that's where the leopard came in. Anyway, we collected lots of information, and over the four years, the leopard eats per catch or kill only up to four, five or six pounds of meat. And the cheetah, one cheetah, eats within an hour up to 22 pounds of meat. He's a much more worse the killer than the leopard. Much more. And you see, the leopard, if he catches one rock rabbit, or one porcupine, or a little steenbok, ar a guinea fowl--that's what he lives on. It's enough to keep him going, but not the cheetah.

Dr. Teer: The leopard will eat carrion and the cheetah will not?

Mr. Port: Will not; will definitely not.

Dr. Teer: So a leopard's kill may be used for several days?

Mr. Port: Yes, he will return till there's nothing left. It's gone.

Dr. Teer: Are there areas of South West Africa where you could say the leopard is more abundant than other areas? I know that distribution records and abundance records are not very--there are very few records. Would you have information on where the largest numbers of these animals occur and what kind of habitat they're in?

Mr. Port: Yes, I would. I would say all the western, along our western, towards our western coast, it's really--there you get all over and on any farm you will have leopards.

Dr. Joubert: It's in the escarpment area?

Mr. Port: That's correct.

Dr. Teer: Is this a rocky escarpment country?

Mr. Port: Yes. And it's not so easy for the farmer to go to hunt and kill him there. The terrain protects him, but in the eastern part of South West Africa toward Botswana, on the border, there is very, very few leopards left. There we have our Bantu homelands and the white farmers kill them with their dogs. They don't allow a leopard; they don't like the leopards up there. You will get some leopards but very few.

Dr. Teer: Most of them are killed because of protection of property?

Mr. Port: That's correct, yes.

Dr. Teer: Do you believe that sport hunters utilize the leopard in more numbers than they should in South West Africa? In other words, do the sport hunters take more leopard than they should in South West Africa?

Mr. Port: No, never. Really, never. I will say it again: open it up to sport hunting. Then the sport hunter is the man; he protects the leopard. You see, he would like to come next year, and year after he would like to come and shoot one leopard.

Dr. Teer: And if he pays a fee to the farmer, that would be a very good incentive?

Mr. Port: And then the farmer really he would protect the leopard. That goes hand in hand, but not open it up for the fur trade. Please, don't open it up.

Dr. Teer: Mr. Port, I understand that you grew up in the Northern Transvaal. What were your impressions of the leopard populations there in the Northern Transvaal along the Limpopo River?

Mr. Port: I was there from the first of December, 1976, to the seventeenth of December, 1976. We actually went up to do game culling in Rhodesia, but with the terrorists on the other side, they kept us quiet for awhile. So whilst we were idling, the farmers came and asked us to kill the leopards on the South African side. So I refused, but for the sake of interest, I went with the farmers on day and night to see what they are talking about. Really, believe me, I've never seen so many leopards and so many cheetahs in that area. I can't believe it.

Dr. Teer: Are they doing a lot of damage to the livestock there?

Mr. Port: No. Actually not. You see, there comes the story with the game. There's so many impala, and duikers, and steenbok, and kudu calves so they don't kill domestic stock.

Dr. Teer: A lot of that property along the Limpo on the Botswana side in the Tuli Block and I guess on the South African side are mainly for game farms, are they not?

Mr. Port: Yes, they are mainly for game farms. You are correct and that's where the sport hunters come in. Again, I will repeat it: open the leopard to the sport hunter. You see, he protects the leopard and those farms along the Limpopo on the Rhodesian side and the South African side. I've seen it really now--day and night--we went out to see not for shooting but to see their real position there--and those farms are at least for 60 years in family hands and they only allow trophy hunters, and you see the results--so many leopards and so many cheetahs! So many game there.

Dr. Teer: Your father was an early pioneer in South West Africa. What was his experience in his early days of settlement in South West Africa with leopards?

Mr. Port: When he finished the Hottentot War, he went out for farming. He went with few cattle, sheep and goats. So the leopards caught lots of these--some of the stock. They had to protect this stock. We're six children, and my father sent us to very, very good schools to get us a good education. To have six children in school, you must protect your stock. So my father killed the leopards. He killed 269 from 1907 until 1961. So then I was brought up to kill the leopards by my father. Later when I couldn't stand it, let's do the other way now. There is another way, and I was the first person in South West to do it--to catch the leopards alive in cage traps. I built especially a cage trap to catch those animals--cage trap. I caught in a few years 111 leopards alive and let them free, some in Etosha Park, some in Kruger National Park and the rest in the United States, Japan, Manila, and all over the world in parks. Not in zoos; I don't like to see a leopard in a zoo.

Dr. Teer: Those that you released in some of these parks, did they stay?

Mr. Port: No, that touched me. Really, I was so touched when the first leopard--I let 11 leopards free in Etosha Pan--and out of those 11 leopards, six returned home. The first one returned after five months. It was a beautiful male. The last--number six; she was a female--came home after two years and four months. All the way looking--where is my home, where must I go. She came home and I was so touched.

Dr. Teer: What were the distances traveled?

Mr. Port: The straight distances you can say--800 km, but within the years and the months, walking and looking for home, it should be much more than that. The first one came home after five months. I let him free in Kruger National Park with two other leopards and two cheetahs. I'm still waiting for that leopard to come home.

Dr. Teer: How did you recognize these individuals?

Mr. Port: I tattooed them and I earmarked them, and I drilled a hole in their teeth. So there you are 100% sure of those animals are from your place.

Dr. Teer: Thank you, Mr. Port.

Interview with Mr. H.N. Chabwela, Chief Research Officer for Wildlife, Department of Wildlife, Fisheries and National Parks, Ministry of Lands, Natural Resources and Tourism, Zambia.

Interview conducted at the Department of Wildlife offices, Chilanga, Zambia, at 10:00 a.m., January 17, 1977, by James G. Teer.

Mr. Chabwela declined to be interviewed on tape, rather preferring to write out his answers on paper because a permit from the ministry would be required for him to tape his answers. An explanation was given to Mr. Chabwela concerning the interview and why it was being requested, and he agreed to furnish answers in writing along with certain data available from the Wildlife Division. The following information is given on tape as it was recorded in writing during the interview.

Dr. Teer: Do you consider the leopard rare or endangered in your country, Mr. Chabwela?

Mr. Chabwela: It is considered rare.

Dr. Teer: If so, is this status based on present populations or trends in populations that will be brought about by future developments?

Mr. Chabwela: It is based on present trends, and these trends are based on field observations. In parts of Zambia, leopards are endangered. In other parts, they are rare. One index is where baboons are high, leopards are rare. Baboons represent a chief item in their diets. Wherever agriculture is expanding, leopards can be expected to decrease because they prey on livestock and their habitat is reduced.

Dr. Teer: On what basis--personal experience in the field, reports from persons in the field, literature, etc.--do you draw your conclusions?

Mr. Chabwela: This information is from general observations. We have not had any exercise trying to census leopards. Sport hunting is permitted in Zambia. The price for taking a leopard is quite high: K50. Approximately 125 permits, or licenses, are issued each year to hunting safaris to take leopards. One hundred twenty-five licenses were issued in 1976.

Dr. Teer: If the United States should allow the importation of skins of legally taken leopards by sport hunting, would it jeopardize the leopards in your country?

Mr. Chabwela: We don't have definite figures. No, sport hunting based on our quota would not harm leopard populations. It would not jeopardize anything. I do not believe it is fair for hunters not to be able to take their trophies back to the United States.

Dr. Teer: Does your country have sufficient enforcement capabilities to prevent skins of leopards taken illegally from getting into commercial channels if the U.S. permits importation of skins taken legally by sport hunters?

Mr. Chabwela: The problem--I am sure a lot of game trophies have been smuggled into other countries. Every person is given a certificate of ownership and an export permit which is approved by the minister--a cabinet minister. From 1973 onward, we have had very few cases of leopard poaching because of the small price they get. Poachers are now focusing attention on ivory.

Dr. Teer: One of the devices that we have thought about to prevent the mixing of legally taken leopard skins by sport hunters with poached leopards is a boxcar seal to tag leopards taken by sport hunters. If these seals could be issued by the United States Government to hunters who have been accepted and given permits to take leopards anywhere in Africa--in any of the countries of Africa--the legally taken skins could be identified when they are returned to the United States for import. Do you think such a system might be useful in cutting down poaching and the introduction of illegally taken skins into the commercial market?

Mr. Chabwela: Yes, that would be useful--the boxcar seal.

Interview with Mr. Norman Carr of Wilderness Trails, Ltd. and Mr. Mike Rowbotham of Zambia Safaris Limited, P.O. Box 2955, Lusaka, Zambia.

Interview conducted at Zambia Safaris headquarters in Lusaka, Zambia at 3:30 p.m. on January 17, 1977, on tape by James G. Teer.

Mr. Carr: Although, as I said before, I am a director of Zambia Safaris, I no longer take an active part in hunting. I conduct the non-hunting, photographic operations. I am very keen on conservation and I wouldn't let any consideration for the company override my dedication to conservation, and if I felt that the leopard was being endangered, even if it was at the expense of our safari company, I would definitely give any evidence in that direction.

Dr. Teer: Mr. Carr, didn't you work for the Zambia Game Department for a number of years in the early days?

Mr. Carr: Yes, I feel I was a pioneer of the game department. I was the first warden of the Kafue National Park, I was warden in the Luanga Valley, and I've done many years' service. In fact, the hunting safaris that we're operating now is a continuation of the scheme which I set up in 1950, which was a conservation scheme. We in the game department ran the hunting safaris at a profit which went towards the funds of Native Authority. In return for permission to organize controlled hunting safaris, they made their own rules to limit or control the amount of animals hunted by their own people. I have been very closely associated with the origin of conservation here.

Dr. Teer: Mr. Rowbotham, you are the general manager of Zambia Safaris at the present time?

Mr. Rowbotham: That is correct.

Dr. Teer: Gentlemen, I have a list of questions I'd like to ask, and you may answer these in any form you want, or give any information you'd like. You do not have to stick to the questions.

Do you consider the leopard rare or endangered in Zambia?

Mr. Carr: Well, leopard is a very secretive animal, and it is certainly not commonplace. When you talk about Zabmia, there's certain catagories in Zambia. If you are talking about the peripheries of settled areas, I would say that it is scarce, but in Zambia's very sparsely populated areas, and in the game management areas which--I would say take up about a fifth of the country and where we operate these hunting safaris, I don't think there's been any pressure on the leopard. Normally they are hunted in the legal way (which means they are not allowed to be hunted at night) and I would say there are just as many leopard now as when I started these safaris 15 years ago.

Dr. Teer: Do you make these statements on the basis of your experience and long time acquaintance in the field with wildlive affairs and with leopard populations in particular, or do you base this information on what others have told you, or is it on your personal experience?

Mr. Carr: Personal experience. I spend more than 50 percent of my time in these areas--in these wildlife areas, in management areas and game reserves. It's a very difficult animal to assess unless you do a proper survey of it. It can only be based on one's personal opinion. When I started these safaris in 1950, we had about 33% success--we told our clients that although they had a license to shoot leopard or to hunt leopard, their chances were about a third, about 33 percent. But now, after more than 20 years, our success ratio is much higher than that. What is that, Mr. Rowbotham? This year for example?

Mr. Rowbotham: In 1976, 79 leopard licenses were purchased and 50 leopards were killed. It's an interesting figure because we all know how difficult it is to hunt this game animal, and if you're getting that sort of success ratio, it indicates that there are healthy populations of leopards. I believe that leopard here in our areas; that is, in game management areas, are plentiful. Otherwise, we wouldn't get this success. I know that our hunters are not particularly skilled in baiting for leopard as they are in other countries, and yet this is our result. Leopards, in my mind, are not an endangered species.

Dr. Teer: One of the problems that our government has been afraid of is that if we allow the importation of leopard skins that have been taken legally by sport hunting, this might open up an avenue for illegally taken skins to get into the commercial market. Or do you think the documentation for identifying legally taken leopard skins by sport hunting is adequate to separate the two kinds?

Mr. Rowbotham: I think the documentation that is required by the authorities in this country covers any illegalities with regard to the normal exportation of leopard skins. There must be a few--I've never been offered a leopard skin since I've been in this country. There must be a few poached leopard; there's no question about that. But it hasn't come to our attention as being anything of any great significance here. Whereas I know that in certain countries to the north of us--Ethiopia for one--leopard skins are available without permits and that sort of thing in many, many shops in the local markets.

Mr. Carr: I can say a little on that. It is so difficult to get a permit here to export trophies; our business suffers because we even have problems getting permits for legitimate trophies. We have got crates of trophies awaiting dispatch because it is so difficult to get the documentation, and they are checked before they are exported. We have to get all sorts of controls and certificates before we can export trophies.

Dr. Teer: You must have a certificate of ownership and you must have a certificate to export.

Mr. Carr: Oh, definitely. Yes.

Mr. Rowbotham: And the trophy has to be examined by the authorities, checked off against the licenses, our export lists and all the rest of it prior to the export permit coming through.

Dr. Teer: One of the things we've thought about that might be useful to identify legally taken leopards is the use of a boxcar seal that might could be issued by our government to hunters who have been accepted by safari companies and who have a license to kill a leopard in Zambia, say, and when the leopard is killed, this boxcar seal locks--and when it's unlocked, it's broken forever--this kind of seal could be placed through the eye of the leopard skin and thereby identify the legally shot leopard skin. These seals could be numbered, and when they come back through our customs, they could be identified as having been given to that particular hunter. Would that kind of system be of use?

Mr. Rowbotham: That would be fine as long as that client brought that seal with him. We wouldn't like to have our dispatching of these trophies held up while waiting for the seals to arrive which would delay our operations.

Dr. Teer: I think that's the way it is visualized--that the seal, that the hunter would apply for the seal before he leaves the United States. He would show that he has the proper license, and so on, to have one. Then he would tag his animal, and shipped back, it would come through our customs with no difficulty.

Mr. Rowbotham: Fine. We'd like to see a system of that sort applied to other animals that are on your endangered species list.

Mr. Carr: Isn't that unnecessarily complicated? Couldn't they just produce a safari license? Wouldn't that be adequate? Every hunter here--every hunting client--has to have his safari license.

Mr. Rowbotham: We keep his license here. We could give him photostatic copies, but the originals are kept here, and have to be produced.

Mr. Carr: But he has to have a certificate of origin for all this.

Mr. Rowbotham: Certainly.

Mr. Carr: Wouldn't that be adequate?

Dr. Teer: I would think so. There may be some problem with some governments that are engaged in illicit activities them-

selves, and manufacture these things (documents). That has been alleged, at least. I think the U.S. might be a little bit reluctant to--well, they do accept them at the present time for those animals that are not on the endangered species list. Those that are, I think there would be a little bit of reluctance to depend entirely on records that were issued by a foreign government.

Mr. Carr: I think, though, that the safari companies will be more reputable than the government.

Mr. Rowbotham: Yes.

Dr. Teer: There have been some problems in East Africa regarding some of these things. I'm not sure this tag we're talking about will finally be the answer, but it's something that's being talked about at the moment.

Do you think that Zambia has sufficient enforcement capability to control poaching of these endangered species?

Mr. Carr: I don't think it's a matter of poaching. It's a matter of having a ready market for selling the trophy afterward. I think in that case, you've got a very active Wildlife Society superimposed on the official wildlife department here.

Dr. Teer: It's a private organization?

Mr. Carr: It's a private organization, and these people are very active. If a member--and I would say probably nearly half of the people in Zambia belong to the society--I think if a leopard skin was being canvassed around door to door, when it came to a member of The Wildlife Society, he would be reported to the authorities and the skin confiscated.

Mr. Rowbotham: Absolutely.

Mr. Carr: And the only way they can get rid of these skins--unless there's a commercial racket going on--which I don't think there is; they can only just go from door to door and sell them on the streets--and I think that is fairly well controlled.

Mr. Rowbotham: We also have a fairly large number of honorary game wardens in this country, and they're very dedicated people and are extremely active. And they also keep the authorities up to mark to a very considerable degree.

Dr. Teer: Do you think that your business has been influenced by this problem of getting leopard skins--trophies of leopards--back into the United States?

Mr. Rowbotham: Yes. I would say so. This is the only country in Africa where the big five are available. They are available to clients in this country for the reason that it is considered none of the big five are endangered. If the United States

quite arbitrarily puts a clamp on the importation of leopard skins into America, then we're down to the big four, and this could go on until you put us out of business.

Mr. Carr: Anything which is prejudicial to the hunting safaris--if the hunting safaris went out of business-I think it would be a sad thing for conservation here. As I said earlier, I started these hunting safaris when I was in the game department. I think they are the greatest conservation measure in Zambia at the moment, moreso than your national parks because it is a money earner, a foreign revenue money earner. It has been shown, in the concessions where we operate, we keep the poachers out, we open up the country--these are uninhabited areas--and it does put a definite value on this natural resource that we have.

Dr. Teer: You believe that it has to have an economic base for it to be maintained?

Mr. Carr: Absolutely. I think it's the greatest one factor--single factor--in conservation is the economics. I don't think any government--this government or any other--are protecting impala because they've got pretty faces. If they're worth so many dollars, then they will do something about protecting them. And by a very long way, the revenue from hunting safaris greatly exceeds any revenue they get from national parks.

Dr. Teer: Do you think that this revenue is plowed back into conservation, Mr. Rowbotham?

Mr. Rowbotham: Yes. To some extent. I would agree with what Norman has said and go perhaps a little further and say that many of our wildlife areas--it would be farmed in those areas--farming wildlife it that's what you want to call us. This form of farming is the best form of farming and makes the most money and there is no better land utilization in certain areas of this country than shooting safaris.

There is another aspect that I'd like to mention and that is this: we view our business as a long term business. We are the last people to shoot ourselves out of business. Our main objective is to conserve, in fact, increase wildlife in the areas where we operate and thus stay in business for many years to come. I think this is a valid point. A lot of people think that we hunters are slaughterers--not so. In fact, we might consider ourselves big game breeders, if anything.

Dr. Teer: I think the hunting industry in North America has a parallel to that which you're talking about here. The early conservationists were hunters and under our present system, most of the conservation activities are being paid for by licenses, and other fees and levies that hunters contribute. So I quite understand what you're saying. I think it has a great measure of truth.

Mr. Carr: May I make another point? I am only talking as a layman but I think we have had some quite authoritative people making some intensive surveys in Zambia. And if I can quote two people, Dodds and Patton were assigned to this wildlife survey sponsored by the F.A.O., Food and Agricultural Organization. They made an intensive survey of the Luangwa Valley, and when I first heard about the possibilities of the leopard being put on the endangered species list, I wrote to Dr. Dodds, and he replied. He was quite categorical that there was no chance of leopards being reduced by legitimate hunting. If we are unable to get a copy of his reply, I think it might be opportune if your department wrote him. I think he is a Professor of Biology in Newfoundland University; I'm not quite sure of his status there.

Dr. Teer: We're looking for all published records and any studies that have been conducted to validate or to show what the distribution and numbers of the leopard are. I guess we all understand there has not been real extensive studies made of the leopard throughout the continent of Africa or even in a single country in Africa. But there have been some surveys made that in general have shown leopards to be much more numerous that commonly supposed. Ordinarily, they are secretive, nocturnal, and they're very difficult to census.

That brings up a point. In your hunting safaris, do you use bait to attract leopards for shooting? If you were to put out a certain number of baits, what success would you expect to have?

Mr. Rowbotham: I would say that we would have to hang about five baits to be reasonably certain of shooting a leopard. But three out of those five baits definitely attract leopard. One leopard may be completely nocturnal and we're not allowed to shoot at night so you would have to opt to sitting in that particular blind at that bait for two or three nights, and give that up and move on to another one. But I would say three out of five baits definitely would attract leopard.

Mr. Carr: I would say along the riverine area of Luangwa Valley, which is where our safaris are based, nearly all our camps are based on the river--we have 150 miles of river front there. I would say there is no area at all anywhere where leopards do not occur.

Mr. Rowbotham: Well, absolutely. I agree with that entirely.

Mr. Carr: The whole area. The whole length of the area and that, of course, applies in depth as well.

Mr. Rowbotham: They do as well away from the river. They are very well spread, very well spread.

Dr. Teer: How much do they occur where there is settlement and human habitation, agriculture and livestock farming?

Mr. Rowbotham: They're very bold; they rely, of course, entirely on their camouflage for their protection. Some will get driven away or killed off--not all that number. In dense European agriculture, Europeans will eliminate them far quicker than the Africans will.

Mr. Carr: Can I make a point to get it clear? I would say three-fourths of Zambia is infested with the tsetse fly; therefore, there is not stock or farming in that area. These are mostly the areas we use for game management areas. So you don't get leopard and stock together usually. They do in certain areas, but the majority of the areas are infested with tsetse fly and these are mainly the game areas where leopards occur.

Dr. Teer: Some have said that leopard can persist in the face of human habitation. They're right on the margins of cities and right into livestock areas and they can go almost undetected because of their secrecy. But where there are conflicts with cattle, at least to the north of us, there have been some that have been poisoned, trapped, and shot and otherwise gotten rid of. They are adaptable, it seems, and can really live just about anywhere.

Mr. Rowbotham: You're right. Like the duiker. I think it worth mentioning-- something that Norman mentioned a few moments ago--is certain trees are being baited by our hunters time after time and they keep taking leopard right off those trees. When one leopard gets shot, another seems to replace it almost immediately in that particular vicinity.

Dr. Teer: That must say something for abundance or at least their mobility. Gentlemen, do either of you have any other points you'd like to add?

Mr. Rowbotham: I think that we should say, and quite rightly so, that we appreciate your visit to Africa to make an inquiry with a view perhaps of putting right something that we think is wrong. We're most appreciative of the efforts that are being made to correct this situation.

Dr. Teer: Thank you very much.

Interview with Dr. Graham Child, Director, Department of National Parks and Wildlife Management, Government of Rhodesia and Dr. Reay Smithers, Vice Chairman, Parks and Wildlife Board, Government of Rhodesia.

Dr. Graham Child was employed for six years by FAO, and was seconded to the Department of Wildlife and National Parks of Botswana. For the past five years he has held the post of Director of National Parks and Wildlife Management in Rhodesia.

Dr. Reay Smithers is retired from the post of Director of National Museums of Rhodesia, a position he held for many years. He is an emminent mammalogist and ornithologist, having written difinitive books on the birds and mammals of Botswana and Rhodesia and the mammals of Mocambique. He currently is employed as a research scientist with the Mammal Research Unit, University of Pretoria, for whom he is conducting a study of niche separation of several species of cats in southern Africa.

Dr. Teer: Gentlemen, do you consider the leopard to be rare or endangered in Rhodesia?

Dr. Child: Certainly not. I don't believe the leopard is at all endangered and it is not rare. The only survey we had of the distribution of leopard was in fact carried out in 1964, and demonstrated a country-wide distribution of the species. Numerical strengths are very difficult to assess on a species of this type which is so secretive and so alert, particularly if it is persecuted in any way. Recent work carried out in the Motopos National Park indicated a population in that park alone--a resident population of territorial animals--on the order of 70 and a total population--if transient animals are included--of approximately 100 animals. This means that there is about one leopard per six km2. This is ideal leopard habitat. It probably gives a density figure which is higher than is average throughout the country. In fact, I am pretty certain it is very much higher than average throughout the country, but I think the limiting factors in each case are the type of habitat in which the leopard is occuring. If there's any threat to the leopard at all, it will be by intensive agricultural development and not through hunting or poaching or any of those sort of agencies.

We've found that the leopard in the Motopos, at least, is almost entirely dependent on hyrax, or at least hyrax makes up a large portion of its diet and with intensive agricultural development, such small or medium sized mammals are obviously going to decrease. This will have a very adverse effect on leopard populations. We have no evidence that this in fact has taken place, but it's certainly conceivable. On the other hand, we do know that leopards still occur within some of the most intensively farmed areas of the country even to within very recent years to the suburbs

of the cities.

Dr. Teer: Is there a commercial hunting program for skins for use in making curios, coats, and other types of fashions?

Dr. Child: No, there is no commercial hunting of leopards. The sale of leopard skins by what we term the appropriate authority for the land which may be the farmer, the tribal authorities in tribal lands, the forestry authorities in forest land, ourselves in the parks and wildlife estate, may not sell a skin without a permit. The hunting of the animal is the prerogative of the appropriate authority. But the selling of the skin is under our strict control. There is no commercial hunting of leopards in this country. In fact, very few leopard skins do come onto the market. Perhaps one could take this a little further and go back some three, four years when a similar question was posed to the government by the then president of the World Wildlife Fund, Prince Bernhard, who requested that we should ban all sale and hunting of leopard and cheetah. Whereas, government was prepared to accept this in regard to cheetah, although that species is not all that uncommon in certain parts of the country, it was not prepared to accept this in the case of the leopard, and felt that legitimate use of the leopard was not only legal but highly desirable.

Dr. Teer: Dr. Smithers, you've recently concluded the issuance of a book on the mammals of Mocambique, and about two years ago, a book on the mammals of Botswana. Could I ask, do you share Dr. Child's feelings about the distribution of leopards and the abundance of leopards in Rhodesia, and also would you comment on these other two States?

Dr. Smithers: Yes, I'd go along with what Dr. Child has just said, and I certainly do not consider the leopard rare or endangered in Rhodesia. In fact, in some areas, I should say it's surprisingly common, and when one says that, one knows from work elsewhere, that where you see leopards, there's probably an awful lot more leopards than you think. As has been shown recently by that work in the Republic, where I was working for five and a half months down in the southeast lowveldt, it was not uncommon to see leopards every two or three days. I think there is a good population there especially, and there are many areas in the country where, I'm thinking now of Matetse, where there are very good populations of leopards. So they're certainly not rare or endangered.

Dr. Child: Could I just add a figure to this because the study undertaken in the Motopos had to be based almost entirely on sign because of the difficulty of sighting leopard. I just would like to quote the figures that the officer actually observed. He had in the space of something on the order of three years 40 sightings of leopards in an area where he knew there were at least 20 resident leopards and several others

that passed through the area but apparently were not resident in it.

Dr. Teer: Do you think that the uses of the leopard could include making of curios and fashions? Is that a legitimate use?

Dr. Child: I believe that a legitimate use of the leopard is the harvesting of the leopard within limits imposed by biological constraints on the one hand and our ability to police this utilization on the other, either of which can become the limiting factor. Once the leopard is harvested, I believe it's right that its products should be used for best possible gain.

Dr. Teer: Under what circumstances can an outside hunter, say from South Africa, come into Rhodesia and hunt leopards?

Dr. Child: This is a fairly broad subject. He can either hunt leopards on privately owned land with the authority of the farmer; he can hunt leopards in certain tribal trust lands with authority of tribal authorities; he can hunt leopards in safari areas under our control with our authority; and he can hunt leopards in forestry land with the authority of the forestry commission. In the case of the tribal authorities, ourselves, and the forestry commission, there is of course liaison as to what quotas are permitted on an annual basis. These quotas are normally very low and, in our case to be more specific, the few leopards which we do commit are normally sold in a package with other species--other attractive trophy species--at a very high price.

Dr. Teer: How do you figure the leopard could be beneficial in terms of economics for conservation uses?

Dr. Child: Well, I believe the value of the leopard is a positive value. That's the value of the leopard or the leopard skin of the animal that has been harvested. The only other value the leopard has is negative value as a stock raider and problem animal.

Dr. Teer: Does the money that is secured from licenses go back into conservation?

Dr. Child: We don't have a license fee in this country at all. The appropriate authority including ourselves may sell its hunting for a maximum profit. So it follows that in the case of, say, the forester commission, and a private land holder, any money derived from hunting could very well go back into conservation of his wildlife, and certainly in both cases, that is happening. As to the tribal authority, it is the prerogative of the tribal authority as to how it uses the funds, and probably not a great deal goes back into the conservation

of wildlife.

In our case, any funds that accrue to us through hunting go into consolidated revenue. We must bear in mind that for every dollar we earn, if it goes into the consolidated revenue fund, we receive from the treasury about five dollars. So for conservation as a whole, I mean we can't say specifically that it's going for conservation of leopard, but if a leopard earns us $200, we're probably getting $1,000 for conservation in general for general administration of the estate.

Dr. Teer: If the leopard had some value that could accrue to the farmer, that might be an incentive to him to protect the leopard.

Dr. Child: Well, this is the case. Because he gets the total sum of money that a hunter pays for the leopard that he shoots on his property, this is very much an incentive for farmers to protect leopards.

Dr. Teer: Do you consider that if the United States were to take the embargo off importation of skins by sport hunters that it would have a detrimental effect on leopard populations in Rhodesia? Would it create a market that goes beyond what there is now?

Dr. Child: I doubt that it would have any effect at all. Firstly, citizens of the United States are not allowed to import any trophies from Rhodesia into the United States. Secondly, the domestic market even within southern Africa is so much greater than the potential market in the States that I believe that it would make very little difference at all. I believe that the whole control must be leveled at the wild population, controlling the wild population, and that embargos on importation and that sort of thing, if anything, can only act against the interests of the leopard. If we reach the situation where the leopard was valueless, and its value is tied up with its skin, but if it was valueless, then our justification for protecting leopards in any areas other than national parks is completely undermined. The leopard becomes less valuable than the scrub goat it eats.

Dr. Teer: Dr. Smithers, is there any aspects of this animal's biology that would serve to protect it even in the face of human pressure and man's agricultural and industrial interests?

Dr. Smithers: Well, I think the proof of this is the situation in the country today, where even in intensively farmed areas, I mean agriculture areas, providing there is adjacent cover, the leopard still exists. In fact, in my view, in some parts it is on the increase for several reasons. I think today people are a little bit more prone to look after their wildlife. Secondly, because in the case of certain areas where hunting takes place, the people have realized this is an extremely valuable hunting animal. It's getting

better protection now than it did 10 or 20 years ago.

Dr. Child: I'm certain of that.

Dr. Smithers: And that goes also, of course, for the safari areas. You may be sure that in the safari areas, the people running these look after their leopards. They all have anti-poaching squads and so on, and I think the leopard is getting far better protection now than it ever did before. That's the reason why, in my opinion, the leopard is on the up and up in Rhodesia.

Dr. Teer: Do you think that the use of some identifying device like a boxcar seal to separate the legally killed leopards taken by sport hunters from leopards that may have been smuggled in or out would be a useful technique for conserving the leopard?

Dr. Child: I don't really believe it would make much difference to the conservation of the leopard one way or the other. It would simply be a case of a foreign government imposing on a local government the right to use its leopards or not to use its leopards except by one means--by hunting. The situation as it prevails in Rhodesia at the moment is supposing that a requirement like this was imposed by one of our neighboring states and one of their citizens came to this country to hunt a leopard. And to have hunted a leopard quite legally, he would be debarred from purchasing a legally killed leopard skin, in a trophy dealer's store or anything like that which is an industry based on wildlife which in turn benefits the conservation of wildlife. Secondly, the authorities in the neighboring states would have great difficulty in being able to allocate that boxcar card or not because the license to hunt in this country is issued by the appropriate authority--the farmer or tribal authority and in many cases this is simply a letter saying you may hunt one leopard.

Dr. Teer: Dr. Child, how do you safeguard a species, leopard, or ungulate or any animal, when the control is made at the moment from local level?

Dr. Child: Well, basically in terms of our laws, we have given the prerogative for the use of his wildlife to be landholder, and as I indicated earlier, the landholder can be a corporate organization like the forestry commission, a tribal authority, or something like that. Now, within most areas of Rhodesia, we have what are known as Intensive Conservation Area Committees. These are committees made up of local citizens who have a commitment to conservation in all its forms as soil, vegetation, wildlife and this sort of thing. Now, a conservation committee can impose restrictions on members living within its area. It can either prohibit

their hunting, it can restrict their hunting, in terms of how many animals, or it can impose seasons in which hunting may take place. If this mechanism were to fail, and it were necessary to control hunting in any area, government can take unilateral action in terms of an edict, which is imposed on a part of the country, the whole country, certain properties--it's completely flexible in this regard. It has the same effect as the conservation areas committees legislation. Finally, if an animal is endangered and we are convinced that it is endangered, it can be elevated to the status of Royal Game, when it cannot be hunted under any circumstances except in defense of life. It cannot even be hunted in defense of property without special permission.

Dr. Smithers: I think this is good legislation for the reason that is you take an example of a rancher or a farmer in the back areas of Rhodesia that has wildlife, this is a big country and you simply cannot provide the necessary policing of a resource of this sort. The intensive conservation areas committees are composed of the group of people within that area, and in my opinion, it's far, far more effective that his friends and his neighbors and so on will place a ban on it rather than the national parks officer who very, very occasionally will get there and won't really learn exactly what is happening. His neighbors will know what is happening. I think it's far more effective than the actual policing by an officer.

Dr. Teer: I could see that curtailment of hunting and policing of hunting and laws that govern it that originate at the local level would be a lot more savory than coming from a federal government or a central government.

Dr. Child: Right, very much so. The other big advantage is now days if you poach an animal on a man's farm, you're not just a naughty poacher, you are a stock thief for pinching an animal he could sell for profit. That's the one point. The other point is I think we mustn't get too carried away about the effects of poaching in a country like Rhodesia where there is very, very little poaching. There is some poaching and don't let's suggest there isn't any and you don't have to have law enforcement all the time. But, in fact, the easiest way of getting rid of animals on a piece of private land is to change the habitat and put a fence around it. The farmer can get rid of these animals without ever firing a shot.

Dr. Smithers: You know, in my opinion, this tag system suggested could complicate the issue too much. After all, if a fellow comes here to hunt, and he is through government authorized, or the owner of the land is authorized to provide hunting, and the authority or the individual owning this land is satisfied that he can have a leopard, and he shoots

a leopard, and he has a letter saying he can do so, surely this is covering the situation without having a tag system.

Dr. Child: Yes. I also think that, you know, that sort of hunter is never going to have an impact on a wild leopard population. The only reason then for controlling imports of leopards into a country--in this case, the United States--would be so as not to create a market that would encourage illicit hunting in, say, a country like Rhodesia. Now, I don't believe that anyone could set up and hunt leopard commercially and make a living out of it because the law of diminishing returns for a species as secretive as the leopard and a cunning as the leopard would come into play long before the profitability of the enterprise had fallen away. So the only danger would arise if there was no control on the hunter-herdsman. The peasant who makes a livelihood out of his stock and carries a weapon around so that if any opportunity occurs he can destroy a leopard worth, say, $300 to him, can be very damaging to a wild population. In a country like Rhodesia, that sort of thing is controlled because he cannot sell that leopard skin without a permit. The leopard skin cannot be exported from Rhodesia without a permit. Now you might say right away, if there was a ready market for these illicit skins, it would make policing very much harder. If you're going to start to concern yourself with the policing ability of the country in which the organism originates, then it's no good stopping at import of leopard skins, you must also stop the import of cycads, the import of pretty butterflies, the import of just about any animal or plant product--wild animal product--because the additional policing involved in controlling leopard is nil; it depends on the policing structure as a whole.

Dr. Teer: Quite right. Gentlemen, these are the questions that I wanted to ask. Do either of you have any recommendations that you'd like to make or additional comments you'd like to add on this matter?

Dr. Child: Having made the reservation that it doesn't really apply to Rhodesia because of prevailing circumstances in relation to the United States, I would simply say, and having worked in Botswana for six years, that all the recipient governments should really be concerned with is that the animal, the skin, the trophy, whatever it is, has been obtained legally in the country of origin.

Dr. Smithers: Yes, I think that's right.

Dr. Teer: Would you apply these kinds of convictions in the case of Mocambique, Dr. Smithers? You've just completed some work there.

Dr. Smithers: Under present circumstances, the answer is no. We would hope that that would come right in time. I'm afraid that's not operating at the moment. There's no control as

far as I can see. No.

Dr. Child: But I think whether the United States puts a limit on it or not is not going to make any difference to the leopards in Mocambique because they'd only be sold somewhere else. Unless every country in the world puts a ban on, Mocambique is going to sell leopard skins, perhaps for a little less but still sell them.

Dr. Teer: Well, thank you very much.

Interview with Dr. S.S. du Plessis, Director, and Mr. W.K. Kettlitz, Assistant Director, Nature Conservation Branch, Transvaal Provincial Administration, Province of the Transvaal, Republic of South Africa.

Interview conducted at the headquarters of the Nature Conservation Branch in Pretoria, Transvaal, R.S.A., by James G. Teer, on tape on January 22, 1977.

Dr. Teer: Gentlemen, do you consider the leopard rare or endangered in the Transvaal Province of the Republic of South Africa?

Mr. Kettlitz: I think no one in the Transvaal is qualified to answer that question objectively. I think the leopard has always been scarce. It's never been plentiful, but we sometimes find that someone has trouble with a leopard very close to Pretoria where no one has seen a leopard in 20 or 30 years. So they are very sly animals, and I think that is the trouble that no one can absolutely tell what the status of the leopard is in the Transvaal, or for that matter, in the whole of the Republic.

Dr. Teer: Is the leopard hunted in the Transvaal as a sport animal?

Mr. Kettlitz: Not much. Well, let me put it this way. I don't think it's hunted as a sport animal by outsiders, but by friends on the farm, that type of thing, because it's very difficult to get at it. If you make arrangements for a man to come from afar to hunt a leopard and maybe he will stay there a month or two and never see a spoor of a leopard. So I don't think there is much hunting from outsiders, but farmers do hunt it, of course, when they have stock damage. And they can also permit their friends on a written document to hunt such animals on their property.

Dr. Teer: Must they have a license issued by the Nature Conservation Branch to shoot a leopard?

Mr. Kettlitz: No.

Dr. Teer: It's not required?

Mr. Kettlitz: Not required. That is, for a landowner. A landowner can also give prior written permission to anyone else to shoot a leopard. I can tell you this, that since about a year ago, you very often noticed that someone invited the next person to come and hunt on his farm a leopard--that type of thing. Last year we had such a ruckus, you know; people become sentimental over leopards and cheetahs. For instance, one chap bragged that he shot five cheetahs on his farm, and the whole populace of the Republic got onto him.

They even phoned him at night from Capetown to tell what kind of a bastard he is. I think you crucify yourself these days if you hunt a leopard.

Dr. Teer: Dr. du Plessis, what is your opinion about the leopard in the Transvaal?

Dr. du Plessis: To answer your question more directly, I would say that although the leopard is scarce, we don't consider it as threatened in the Transvaal.

Dr. Teer: Is there a commercial operation in which skins are bought from farmers who take the leopard in defense of stock and property and then these skins are made into curios and fashions and that sort of thing in the Republic?

Mr. Kettlitz: Well, I think this type of trade has been cleared up, more or less, in the Transvaal in the past decade. I think this thing initially started with the clampdown of the United States with the Conservation of Endangered Species by Fish and Wildlife Services in 1970. April, 1970. Well, since that stage, they couldn't export the stuff unless we here stipulated it was legally hunted. Then, of course, the American consulate here had to make another statement that we as a body were qualified to make this statement before they could export. That helped a lot. You know, we've had a lot of talk here, even three or four months ago, about the big trade in skins. We went into this and found that these skins were all acquired before we had our convention on international trade--before we applied our regulations with the convention--on international...

Dr. Teer: That was the one in which the countries signed proclamation that they would ban the importation and...

Mr. Kettlitz: Yes. The Washington convention...

Dr. Teer: Of spotted cats.

Dr. de Plessis: Convention on the International Trade in Endangered Species.

Mr. Kettlitz: Then we analyzed these furs this particular trader had. I think he had something like 150 to 170 furs and about 21 of these came from the Transvaal. The others came from Botswana and from other neighboring states. Of these, these furs were all prepared; they were processed and stuffed, that type of thing. Fairly old stuff. We are prepared to issue a permit for that stuff, to get rid of that. Of course, we won't issue permits to export anything new. That is where we clamped down on the thing. I feel that these traders, like the people in South West Africa, they sit with their ill-gotten gains and they can't get rid of it. They advertised cheetahs all over. I saw it ad-

vertised in "The Farmers Weekly." They can't get rid of the stuff. Everyone has clamped down on it.

Dr. Teer: Do you think the convention that prohibited trade in these endangered species has been a conservation measure for African countries generally?

Mr. Kettlitz: I won't say that if you don't take the thing up in the proper sense and just ratify everything and sign everything, it will just go on as before. If you are really interested in saving the animal.

Dr. du Plessis: I think that the fact that the United States is a big market for these things, and they are dealing with it properly. That makes all the difference.

Dr. Teer: If there's no market, there's no reason for people to take them?

Dr. du Plessis: In the illegal trade either. That is the kind of thing that can develop if you create a market.

Mr. Kettlitz: One of our recent ambassadors in Rome told me his wife received a cape or something of a leopard from furriers. She wore this thing to an afternoon tea or something. She had to bloody well take it off. They nearly bloody killed her. So that's the type of thing. You get this opinion; it's growing here with us. I don't know in the northern African states how far it's gone. But with us here, it's as I say. If you do shoot a leopard and talk about it, well you more or less crucify yourself.

Dr. Teer: It's very unpopular?

Mr. Kettlitz: Very unpopular at present.

Dr. du Plessis: Because of sentimental approach to these things, we've gained a lot here. In the United States, too, you know. It's very strong in the United States--the sentimental thing.

Mr. Kettlitz: But on the other hand, though, the leopard can do a lot of damage to stock. One must be able to safeguard the farmer where he has stock losses. We try to clamp down on this type of thing where a person comes to us--and this actually happened--the person comes to us and we know the person very well and he says, "Man, Mr. X is a farmer there and he has a leopard. Man, he has such a lot of stock losses. I'm prepared to go and capture this leopard for him. You must give me a permit!" We had more or less nothing to say. We got our Board to take a decision on this type of thing, and clamped down on them. They can now capture the leopard but only for restocking purposes--approved restocking purposes.

Dr. Teer: Gentlemen, is there any other information that you'd like to add to the questions we've discussed?

Mr. Kettlitz: Yes, well, I would add that while the American prohibition of leopard skins has helped us a lot but then they started with a new racket. As I told you just now, they tried to capture the stuff alive, and exported the animals to all types of zoos. They tried to get past it that way. Then we clamped down on that, too. But I feel that in the Transvaal--I'm not prepared to make any statement on the other parts of the Republic--but in the Transvaal, we can allow the export of leopard skins which were hunted legally by outside hunters because before we issue a permit we can find out whether it's been shot legally on whose farm and we know every farm and every owner here.

Dr. Teer: Is there a safari business that's operating in South Africa? Are sport animals like the ungulates hunted?

Mr. Kettlitz: Yes, quite a number of them. As far as I know, no one goes in for leopard. Down there you get some going in for lion, because, you know, we have quite a number of big reserves where lion can be hunted, and where they are fairly plentiful. As for the leopard, no.

Dr. du Plessis: Yes, I don't think the leopard is as available as the lion. It's so secretive, you know. You never come across a leopard.

Mr. Kettlitz: I suppose they will sell one if they can get hold of one. They hunt them, too, but I don't think they can guarantee it.

Dr. Teer: One of the things that has been discussed as a method for identifying leopards that have been legally taken by sport hunters is the use of a seal such as is used on a boxcar, a locking seal that has a number on it. If this seal could be issued by the United States Fish and Wildlife Service to hunters who can produce a license showing that they have the right to hunt leopards in some country in Africa and then if this seal was locked through the eye of the skin, it would come back through our customs with no difficulty because it would have a number identified with the hunter who was issued the seal in the first place. Would this kind of device be useful in keeping the legally shot leopards separated from those that come in the illicit trade?

Mr. Kettlitz: Tell me, professor, do they issue these to the individuals who then attach it to the leopard?

Dr. Teer: Yes, I think this would be the plan if it was adopted for the hunter who produces a license would be issued a numbered seal and once that seal is locked it is destroyed.

Mr. Kettlitz: Yes, we have examples of that.

Dr. Teer: Yes, I think it would be issued to an individual who could produce a valid license.

Mr. Kettlitz: Yes, on the other hand, a person does not need a permit to hunt a leopard, how do you then work it?

Dr. Teer: That would be difficult.

Mr. Kettlitz: When I heard you the first time, I thought you meant the States would issue--say to a State Department--these seals and they attach them to the skin if they can ascertain it has been legally taken.

Dr. Teer: That might be a very good way to do it.

Dr. du Plessis: Yes, I think that would be the only way to control the situation. Otherwise, you could take any skin and just put the seal on it.

Mr. Kettlitz: Yes, but you see, the hunter gets the seal when he has the permit but he doesn't hunt the leopard. He then sells it to the next guy. This happens...

Dr. Teer: There probably would be ways to get around it.

Mr. Kettlitz: Yes, I think they could be issued to the appropriate authority and you are absolutely sure of your business there. And then they attach this--if they are sure that this thing has been hunted legally. They attach it to the skin.

Dr. Teer: Gentlemen, do you know of any specific studies in the Transvaal where someone has studied the leopard and obtained data on its distribution and numbers and status?

Dr. du Plessis: No. I think a study like that would be very useful but it has not been done.

Mr. Kettlitz: Yes, I think, as you say, localized studies have been made on the ecology of a certain group, but on the status, I know of nothing.

Dr. du Plessis: Although I think we know the leopard is more or less confined to remote mountainous regions where there is not many people living, it also is in some of the big nature reserves, even private reserves.

Dr. Teer: I suppose where there is a cattle industry they are not very abundant.

Dr. du Plessis: I wouldn't say that. I wouldn't say they

are never abundant but they can survive even in cattle areas. They retreat into the mountains and nobody is prepared to take the trouble to go after them unless they are really doing damage. I think that is what protects them to a certain extent.

Another thing, we feel that you must not create a market. There must not be an incentive for someone to go after the leopard unless he has done damage. That is perhaps the best way to preserve it under the present circumstances.

Dr. Teer: If you could control that kind of trade, do you think carefully regulated sport hunting is a legitimate use of this animal? If it did not promote a market for skins outside of the trophy itself?

Mr. Kettlitz: Yes, I certainly think so because in the first instance, it's a beautiful animal. Although it's scarce I think it's sparsely distributed, but I think it can be hunted. There must be a surplus, and I think if you can have them hunted and treat them as trophy animals, you put a certain value on them. Even a farmer who has cattle losses will eventually say it is not worth hunting a leopard if he loses two or three head. He can rather sell it some other way and keep the leopard.

Dr. du Plessis: Yes, if the farmer knows he may get some money out of the hunting of the leopard, he may not want to kill all of them. Normally, the stock farmer wants to exterminate the predators; he does not want to control the numbers, he wants to just exterminate them. Luckily, in the leopard's case, it is not possible. There's too much work involved.

Mr. Kettlitz: They must be very secretive animals because we've had a year ago a leopard here just over the second ridge in Pretoria. No one knows where it came from. It's not a tame thing. And at Hartesbeesport Dam in the vicinity here, we have leopards there often. I won't say often but once or twice a year. That's about 20 miles from Pretoria.

Dr. Teer: Well, thank you very much, gentlemen.

Interview with Nass Rautenback, Mammalogist, Transvaal Museum, Pretoria, Transvaal, Republic of South Africa.

Interview conducted at the Transvaal Museum on January 23, 1977, by James G. Teer, on tape.

Dr. Teer: What do you consider the status of the leopard to be in the transvaal? Is it endandered, or is it rare, or what status does it have?

Mr. Rautenback: Based on my opinion, it is only rare; certainly not endangered. I should hasten to add that I've just completed a survey of the mammals of the Transvaal and that I spent a lot of my time concentrated on the small mammals. So what I can say about leopards is based on circumstantial evidence. I didn't try at all to trap any leopards. All the records I accumulated are from site records, incidental site records, and also from interviews with farmers. Wherever I recorded a site record from a specific area, based on evidence even by farmers, I always double checked it with the local Bantu people, the tribesmen. So all my records are based on at least evidences given by people.

No, I don't think leopards are rare--sorry, I don't think leopards are endangered in the Transvaal, but they certainly are rare. The reasons, according to my mind, why they're rare is agricultural pressure and also I think the fact they are territorial should be kept in mind. They're not very often encountered and the reason there I can submit to you pretty good evidence they are simply too shy. If there's any way open to them, they give way. They detect you long before you detect them.

Dr. Teer: How do you think the leopard can persist in areas inhabited by people and by farms, and agricultural practices?

Mr. Rautenback: I don't know why this is. All the records I I have seems to indicate the wherever there is pressure on leopard and their habitat, they retreat to mountainous areas. We all know that human beings are very lazy and it's only the few exceptional people who do go and wander in the mountains. Leopards certainly do retreat into mountainous areas. I can quote you several instances in the Magaliesburg Mountains here in Pretoria in the middle of town where leopards have been encountered. In fact, in the beginning of last year--I think it was January, 1976--a leopard was shot in the southern court Centerville (?) at the foot of the Magaliesburg Mountains by the police. So, no, they're certainly around. Wherever conservation authorities trap intensively to remove these predators, they always succeed.

Dr. Teer: Do you think that if the United States were to life the embargo on the importation of leopard skins that are brought back as trophies would have any effect on the leopard populations in the Transvaal?

Mr. Rautenback: I think this depends on the opinion of our local conservation authorities. Right now, leopards are considered to be vermin by them, and, personally, I think this should be changed. I do believe that, at least, leopards deserve the protection afforded by the category, hunting animal. As soon as hunting is controlled by our local authorities, yes, I do believe that hunters can hunt them under state control. This can be imported to the United States. At the moment, the situation is that anyone can shoot a leopard without any permission from any authority whatsoever.

Dr. Teer: But they can't sell the skin or traffic in the skin?

Mr. Rautenback: No, they cannot sell it outside the country but they can certainly sell it inside the country. Apparently there is a very big local market which takes everything available.

Dr. Teer: Nass, must the livestock farmer have a permit in order to protect his property from damage by leopards? Does he have the right to protect his cattle, sheep, and goats, simply by going out and shooting it?

Mr. Rautenback: To the best of my knowledge, and I should stress that, to the best of my knowledge, and my interpretation of the protection laws, he is fully entitled without notifying anybody to trap, shoot, or to kill in any way he finds possible.

Dr. Teer: Is there any kind of sport hunting business in the Transvaal for taking spotted cats or lions?

Mr. Rautenback: To a very limited extent. I am not aware of hunting done on leopard as such. Certainly, on lion, yes. But I think leopard is just too dangerous and too scarce for people to bother hunting it. But there is no commercial hunting that I'm aware of. I can give you records of one or two professional hunters who may give you information.

Dr. Teer: Nass, as a mammalogist and a conservationist, what do you say the proper use of the leopard would be in the Transvaal Province?

Mr. Rautenback: Within conservation areas, it's a very important predator, and we all know the importance of the predator on deer populations are. So I would certainly like to see the leopard accorded conservation status just from that point of view. Then, certainly in agriculture areas where they do become a pest, or a menace, why not allow hunters to hunt them on a commercial basis rather than to trap or shoot them? Also, I should warn you here that from

bitter experience I know that farmers always overexaggerate. When they tell you that 12 cattle, or calves, have been killed you can deduct about 10 from it.

Dr. Teer: That's universal. Thank you very much, sir.

Interview with Mr. John Vincent, Assistant Director for Interpretation, Public Relations, and Special Projects, Natal Parks, Game and Fish Preservation Board, Province of Natal, Republic of South Africa.

Interview conducted at the headquarters offices of this organization in Pietermaritzburg, Natal, R.S.A. by James G. Teer, on tape, on January 23, 1977.

Dr. Teer: John, do you consider the leopard rare or endangered in Natal?

Mr. Vincent: I wouldn't say it was endangered. We look upon it as rare simply because the habitat is comparatively limited, although where it occurs, it is not in any danger of extinction at this stage anyway.

Dr. Teer: Is it an animal that is used in sport hunting in Natal?

Mr. Vincent: Not at all. We have good control over sport hunting in Natal. Were any requests to come through for leopards to be shot, it would have to be very carefully considered and the chances are we probably wouldn't issue a permit to have them shot.

Dr. Teer: Are leopards taken in defense of life and property?

Mr. Vincent: I think I can safely say that in the last five years there has probably been no more than two shot in Natal in defense of life and none in defense of property.

Dr. Teer: Is there any trade of skins of leopards that is legally done for the manufacture of curios, coats and fashions of that nature?

Mr. Vincent: None at all from leopards emanating from Natal. There are a few permits issued each year, or have been in the past, for skins coming in from other parts of the continent, but with this recent signing of the endangered species convention, the chances are no more import permits will be issued.

Dr. Teer: Do you consider that poaching of leopard is non-existent or negligible?

Mr. Vincent: I would say it's almost negligible. It's not non-existent.

Dr. Teer: If the United States were to take the leopard off the endangered species list, thereby permitting sport hunters to bring their trophies back to the United States, would you

see that this might be a move that could jeopardize leopard populations in Natal or in Southern Africa for that matter?

Mr. Vincent: I would say almost certainly not. I think I am correct in saying that in all provinces protection is sufficiently good to obviate this. I'm speaking strictly for Natal now when I say that it certainly wouldn't affect the populations in Natal.

Dr. Teer: Is there an organized sport hunting or safari-type hunting program in Natal for species such as the large ungulates and predators?

Mr. Vincent: Certainly for a number of the large ungulates, but as yet, nothing for predators.

Dr. Teer: John, one of the things that we have about is a device that could be used to identify leopard skins that are taken legally in Africa from those which have gotton into the illicit trade through poaching and smuggling is the boxcar seal that could be issued to hunters leaving the United States for hunting in Africa to use on leopards that are taken in Africa. These boxcar seals, as you know, are a locking device that once they have been locked cannot be opened without being destroyed. It is our thought that perhaps these could be issued to a sport hunter by the U.S. Fish and Wildlife Service or some such agency in the United States to those hunters who have been given licenses to take a leopard in Africa in some of the countries. When the animal is killed, this locking device could be put through the orbit of the eye and attached. Of course, the seals are numbered and that would in one way identify the skin with the hunter who was permitted to take it. Would this, in your opinion, be something that would be useful in cutting down the poaching of leopards and the entering of their skins into the commercial market?

Mr. Vincent: Do you mean generally speaking or in southern Africa?

Dr. Teer: Yes, throughout Africa?

Mr. Vincent: I would say that insofar as sport hunting is concerned, it might well control that, but frankly I think where a sport hunter is involved, he has ethics. It's not in his interest to transgress any laws as far as leopards are concerned. But this still doesn't necessarily get away from the illicit trade in leopard skins.

Dr. Teer: One of the things we're worried about is that if the United States were to allow skins, trophies, that were brought in, that were taken by sport hunters, into the United States, then the attendant poaching and the entry of illicit leopard skins into the United States might also be a problem.

Mr. Vincent: I would say it would almost certainly be an attendant problem. The fact that they can be legally sold in the United States, not necessarily with the seal attached, once they've been treated or cured, would then bring about quite alot of problems.

Dr. Teer: Where leopards are known to occur in good numbers, do you think sport hunting is a legitimate and proper use of such a magnificent animal?

Mr. Vincent: Esthetically, I would almost certainly say no, but logically and objectively, I can see a value to it as a form of income to some countries through not only the sport hunting of it but also the intrinsic value of the skin provided it could be properly controlled. There again, without proper control, it's so easy to get out of hand and you end up with a situation where sport hunting suffers, sport hunting of leopards suffers, and gets blamed for perhaps a decline in the population.

Dr. Teer: Do you have any information or could you give us references to any studies in which distribution records and identity record numbers of leopards have been obtained. through field studies in Natal or in any other part of southern Africa that might be in your acquaintance?

Mr. Vincent: I would say that certainly there hasn't been any study done in Natal, and generally speaking in South Africa, there's been very little work done on the leopard that I know of or that I'm aware of. In Natal, because we've not been concerned with the leopard's status, we haven't considered it to be a priority for study. Where it occurs, it's very inaccessible as to be almost impractical to make a full study of it. Where it doesn't occur, the reasons are pretty well known because Natal is so intensively settled.

Dr. Teer: Are there leopards in the Natal parks in Zululand--in Hluhluwe and Umfolozi?

Mr. Vincent: Yes, indeed. Not in any great numbers, but they are certainly there and there's no reason at all to believe that they're not saturated in the areas where they occur.

Dr. Teer: Do you have reports in Natal of leopards taking domestic livestock from farms and in other ways coming in conflict with agriculture?

Mr. Vincent: If we get one case a year reported, it's a lot.

Dr. Teer: Do you have any other information or comments that you'd like to make about this evaluation of the leopard as an endangered species?

Mr. Vincent: I think the only thing I should perhaps point out is that we in our own laws in Natal have a very limited list of animals which we look upon as requiring special protection and it may be significant that no more than a year ago, it was decided the leopard didn't need that special protection, and as such, was removed off the specially protected schedule and put on the protected schedule which still gives it vary good protection.

Dr. Teer: It doesn't have the classification of a conserved species or endangered species?

Mr. Vincent: That's correct. Yes, conserved perhaps, but certainly not endangered. It's all related to permits and licenses. We won't issue a permit for a leopard to be shot even by a landowner.

Dr. Teer: Thank you very much, sir.

Mr. Vincent: With pleasure.

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4th April, 1977

Dr. James G. Teer,
1204 Walton Drive,
College Station,
TEXAS 77840,
United States of America.

Dear Jim,

Your letter and enclosure, dated March 1st, was postmarked March 23rd, and reached me April 2nd. It followed two days behind your other letter about the ducks, for which many, many thanks. I hope by the time you get this that we will have resolved problems at this end and will have sent you a cable.

Jim, there are one or two amendments to the transcript of our interview, which are necessary. The first is the legal status of the leopard. I was incorrect in stating that the leopard had only recently been removed from the specially protected schedule (Schedule 3). It had been done two or three years previously in an effort to reduce the length of that schedule and give real meaning to it for a few species that were particularly in need of protection. Another motive was to enable permits to be issued for landowners to deal with their own stock marauding problems. However, no such permits were issued, or indeed sought, during the ensuing three or four years, and last year it was decided to afford leopard a higher degree of protection as part of Natal's contribution to the Endangered Species Convention, and in recognition of the campaign against exploitation of spotted cats. It was therefore reinstated in Schedule 3 and enjoys specially protected status in Natal.

All this does not alter the fact that its conservation status in Natal is good - certainly where it has not already been pushed out by settlement, and we are not concerned for it because of illegal - or even legal - exploitation.

Another implication of the Schedule 3 is that only the

2/.....

Administrator of Natal may grant a permit to kill or capture a leopard. This is only done on a recommendation from the Board, but provides an additional safeguard against a permit "slipping through". Any person in possession of a trophy derived from any specially protected game after 1957 is guilty of an offence unless he can prove the trophy was lawfully obtained. Obviously that provision is only invoked when all else has failed. Nobody may export any game or product from Natal without a permit. I quote these few provisions of the law only to indicate the degree to which specially protected game are covered.

The second (minor) change I should like to make is to my statements regarding import of leopard skins at the bottom of the second page. Obviously a permit would be granted for skins to be imported if the exporting country had given its permission. This is a provision of the convention of course.

In explanation of the statement at the bottom of page 4, I must point out that what I meant was any bona fide sport hunter would apply for a box seal before he left. If he intended to act illegally he would try undercover methods to bring the skin in and dispense with the skull anyway! A permit system would probably be just as effective, provided the country of origin "played ball". If the country of origin is not signatory to the Convention, then don't grant an import permit!

I hope these explanations don't confuse the issue too much!

With kindest personal regards,

John

John Vincent
for DIRECTOR.

JV/vam

Interview with Dr. J. A. J. Meester, Chairman, Department of Zoology, University of Natal, Pietermaritzburg, Natal, R.S.A., and Mr. Jeremy Anderson, Research Biologist, Natal Parks, Game and Fish Preservation Board, Province of Natal, Republic of South Africa.

Interview conducted at the University of Natal in Dr. Meester's office by Dr. James G. Teer, on tape, on January 23,1977.

Dr. Meester was formerly the head of the Mammal Research Institute at the University of Pretoria and Professor of Zoology there. As a taxonomist with interests in mammalogy, he has produced an annotated checklist of the mammals of southern Africa for the Smithsonian Institution.

Jeremy Anderson was formerly employed as a Game Biologist with the Department of National Parks and Wildlife Management for the Government of Rhodesia, and for the past three years has been studying lion in the Zululand parks.

Dr. Teer: Gentlemen, do you consider the leopard rare or endangered in your country? Dr. Meester, maybe you could give answer about the Province of Natal or any other area that you have some familiarity with.

Dr. Meester: The first thing I should make clear is that my knowledge of the leopard is very superficial and secondhand. My interest in it is as a taxonomist. I don't claim to know it as a subject of ecological study, so that my remarks will be somewhat imprecise. But my impression is that wherever the leopard has occured in recent years it seems to be holding its own pretty well. It doesn't seem to be either rare or endangered, although I think it is an animal we should keep on watching.

Dr. Teer: Jeremy, you've had considerable experience in recent months at the Hluhluwe National Park in Zululand. I know you've been working with lions there as a research project. Have you had any impressions about leopard numbers in that particular area?

Mr. Anderson: Well, I will first talk about the area, it's Hluhluwe and Umfolozi Game Reserves and the adjoining corridor between which total about 250,000 acres. I spend a year--about 80 to 100 nights a year in the field and hear leopard probably one night in four. To give you an example of how seldom one sees them, during the whole of this last year, I haven't seen one leopard, although I heard them often. I check on lion spoor on the Umfolozi River, the White and the Black, which total about 70 miles of spoor counting. I come across leopard spoor about once every two to three miles, and that spoor is usually less than a week old.

We also keep records of all observations of predators. These are made by all staff and there's been a very signifi-

cant increase in the number of leopards sighted. Going back 15 years ago, if there was one sighting made a year in Hluhluwe Game Reserve by anybody; that was really outstanding. Now, there is an average of about two sightings a month made by staff. The bush is very thick, and it's very hilly country and so not conducive to making sightings of leopard. There are certainly more leopard than there were 10 years ago. Why this is, I don't know. I think it probably goes back to the period when the aim of the first conservator in the area was to increase the number of ungulates for viewing by the public. He embarked on a policy of poisoning hyena and dropping poison baits around and in one period of 18 months, he killed 300. Now a leopard will take a poison bait as well, and I should imagine this was one of the things that set the population back. But certainly there's been an increase in the number of leopard in the Reserves.

In Mkuzi Game Reserve where there hadn't been any sighting of leopard up until about three or four years ago, they've started seeing leopard now. We've also released leopard in there that had been captured in the Transvaal. So I think the leopard in Zululand is secure and on the increase.

Dr. Teer: Would you have some impression of leopard populations in Rhodesia as a consequence of your work there as a Game Biologist in past years?

Mr. Anderson: Well, I saw leopard in Rhodesia more often then I've seen them in Zululand, so one can extrapolate from that. I'd say there are a lot of leopard there, and I certainly don't think hunting has any effect on the leopard population. In the Gwaai Forest, an area of about 300,000 acres, the people had the concession there for culling. They were given a permit I think for six leopards a year. They never actively hunted leopard. There was no baiting for leopard at all; they shot their six leopard every year by just coming across them. As far as I know, people are still able to shoot leopard there. No, I think as long as the habitat is alright and the game is there, there will be plenty of leopards.

Dr. Teer: What impressions do you have about the nature or extent of poaching or smuggling of leopard skins for illicit commerce?

Dr. Meester: I don't really have much idea, but I suspect there must be poaching going on. Smuggling gets to be pretty difficult these days. I don't know how much is in fact smuggled across our borders, but I think it is quite possible that some leopards will be poached and then, shall we say, "washed" before being offered for sale. I don't think this is a serious problem in this day. I think I would have known if there was a significant illegal fur trade in leopard. However, it must exist somewhere all the time.

Mr. Anderson: I'd go along with that. I think leopard are being illegally killed, but I don't think there is a market from here. We've had cases of Zulus killing leopard outside the game reserve. Every now and again a couple of Zulus get one, but this is mainly because leopard are out killing goats. We've never prosecuted them because of this, although it is illegal to kill them, it's a question of protecting their livestock.

Dr. Teer: Do you think if the United States were to disenfranchise, so to speak, leopard as an endangered species and allowed sport hunters to bring their trophies back into the United States, would this in any way have any effect or would it jeopardize leopard populations in southern Africa?

Dr. Meester: I don't think so. The reason is this: if you make the leopard a bona fide legal trophy and you allow legal import and export of skins, this means there is some control. This control can extend to both this country and in the States at any level that is needed to insure that it's not overutilized. I think it may be more dangerous to allow underground poaching and smuggling which is in the very nature of things uncontrolled. And, of course, it would also inflate prices, which would make it more attractive to smugglers or poachers. So I'd like to see rather legalized and therefore controlled harvesting than the danger of uncontrolled harvesting.

Dr. Teer: What, in your opinion, are the most important factors that leopards must deal with in maintaining their numbers and keeping up sizeable populations in southern Africa?

Dr. Meester: The first thing they have on their side is that they're secretive. We all know this. The leopard, the kudu, and duiker are the last of the animals to survive in an area where everything else is gone. They survive in small numbers, but I don't think in unhealthily small numbers, over vast parts of the country where other animals have for the greater part been gone for years. We don't have hippo and rhino down in the Cape as we used to but we still have leopard in the Southern Cape mountains, and as I say, we still have kudu and so forth. I think that being secretive they are pretty well safe from hunting and I don't think that hunting is at present a major threat to them. The main danger to them is probably the destruction of the habitat of their prey. Destruction of habitat is unlikely to hit them directly very strongly simply because the sort of habitat they occupy is pretty rugged country, which is pretty safe, so that there's going to be leopard habitat long after the other habitat has been knocked out. Obviously, they need their prey to survive and therefore you need to protect the habitat of their prey. This, I think, is their main threat, and where they have become reduced in numbers or been destroyed altogether, this is how it's happened.

Dr. Teer: If there was some means by which these leopard skins that are taken legally by sport hunters could be identified by such a device as a boxcar seal that would be inserted and snapped, locked shut, say in the orbit of the eye, and kept with the skin and brought back through customs in the United States, would there be some merit in some system like this that would go beyond issued licenses and export-import permits that the country of origin would issue?

Dr. Meester: I've never thought about this one.

Mr. Anderson: I haven't thought about it either.

Dr. Teer: We thought that perhaps the U.S. Government might issue such a numbered seal to a hunter who showed evidence that he had been given a license to take a leopard in some country or another. When he kills this leopard, he attaches the seal both to the skull and to the skin so that when it's brought back he has that identification as being a legally taken animal.

Dr. Meester: And together with the permit which proves he was entitled to a leopard.

Dr. Teer: Exactly.

Dr. Meester: That seems to make sense. I think any system which could identify the trophy as the one for which the permit was issued--and I'm not saying yours is the best or only system--anything like that would help with control of harvesting, which is the name of the game.

Mr. Anderson: I think here in South Africa you've got a developing safari industry based mainly in Zululand. The hunters travel from Zululand to various concession areas, mainly on private farms. I think if one can provide an incentive to the farmers not to try and eliminate their leopard populations entirely they can provide them for hunters at a high fee. This will do more for the conservation of leopard than prohibiting the shooting of them altogether.

Dr. Teer: That's a very good point. Without trying to editorialize, the economic value that some of these animals have can be a very great stimulus to their conservation.

Dr. Meester: Yes, I guess that now that Jeremy's mentioned it, I suppose the area that is most likely to be dangerous to leopards is that belonging to a farmer who's worried about leopards taking his stock. He's more likely than any outsider to know what he has. If he isn't sufficiently educated or sufficiently motivated he's going to say, "Well, hell, all I want is to get leopards off my farm." If enough of them do that, that's trouble.

Dr. Teer: Gentlemen, do you have anything you'd like to add to the questions that we've asked, any comments you'd like to make about this matter of the evaluation of the leopard as an endangered species?

Mr. Anderson: No, just that--I don't think in Natal the species is endangered. I don't think we'll ever build up to huntable numbers because of the pressure from farmers. If we do, I'm sure we would support hunting of them, but at the moment, we don't. I think if one could place an economic incentive on the farmers to keep leopard, even if they break even on the number of cattle lost, it will give them some reason not to get rid of the leopard. I think safari hunting is probably the most promising way of doing it.

Dr. Meester: I agree with you, only if safari hunters survive; the ones that don't go out of business tend to be pretty responsible and conservation-minded people. Their survival depends on that.

Dr. Teer: They will not shoot themselves out of business.

Dr. Meester: That's right. If you can engender the point of view that will insure their cooperation rather than forcing them into opposition, which I think we're doing now, this is all to the good. We might even get more dependable information about leopard. I don't think we can just relax about the leopard and say it's safe and forget about it. I don't think it's rare or endangered, but I certainly believe that it deserves constant scrutiny. I guess the more I think about it--this didn't come out in the early part of the interview the more I believe that apart from habitat destruction of prey animals, the farmers might well be the most important threat to leopard at the moment. I don't think the leopard is at present a viable propostion for safari hunters in any part of South Africa that I know, but I don't believe we should reject this possibility altogether.

Mr. Anderson: Yes. There are a few places in the Eastern Transvaal where people have got leopard and I don't think companies from space (Natal) do hunt there yet.

Dr. Meester: Sure. But this has to be internationally pretty much a drop in the bucket and is too little incentive for a hunter to come from the States. I don't imagine that the guy who wants to shoot a leopard should be advised to come to South Africa. I don't think there are enough leopards or that they're easy enough to get at in most of South Africa to make it a good risk financially.

Dr. Teer: He would more likely go to Botswana or South West or some other place.

Dr. Meester: Yes. Botswana, South West, of course. In South West there is Atilla Port who has put a tremendous amount of work into translocating leopard and cheetah. There are two points. One, he's doing a good job and the other is that there are enough leopards to make it reasonable to take them away from areas where they are perhaps an embarrassment and a menace and put them into areas where they are less so.

Dr. Teer: Thank you very much, gentlemen.

Interview with Mr. Maloni, Adviser to the Minister of the Environment, and Mr. Manawaya, Legal Adviser to the Minister, Kinshasa, Zaire. Conducted on January 21, 1977, by Wendell Swank.

Mr. Maloni: In Zaire, any animal can be hunted or killed if it is not in a National Park or a reserve. This law has been in effect since 1937, and at this moment we are studying and trying to update our laws to conform to present standards. So the cat (leopard) can be taken by anyone if it does not occur in those places. When in a park or reserve you must have a permit even to take a picture. Both flora and fauna are protected in parks and reserves; nobody can disturb it. So you can be attacked by an animal in a park, but you cannot kill it until you get permission.

The laws we are going to pass will require a permit to hunt and shoot animals outside parks anywhere in the country. This permit will specify the kinds of animals and numbers of animals you can kill. This is the suggested legislation now, and we are starting to enforce these regulations in accordance with the new spirit the Government would want us to put into application right now.

Dr. Swank: Do you have any estimates of the number of leopards now taken in the country?

Mr. Maloni: Taken alive or dead?

Dr. Swank: Taken dead.

Mr. Manawaya: We do not know at this moment the number taken; nor do we know the number of leopards in Zaire. We have no records of the number killed or captured, or exported; but we are trying to make laws and regulations that will help us get such information. We are contacting people who work in parks and other places to have them give us numbers as well as using other methods. We are using airplanes to make counts, but it is difficult to count some kinds of animals from an airplane, I think because they are used to being hunted, and they hide. You can't see them so you have to use something like infrared methods.

Dr. Swank: Infrared hasn't been too successful, particularly where pastoralists are grazing domestic livestock, because it is impossible to tell whether the animal is wild or domestic.

Do you think poaching of leopards in your country is widespread, and is it depressing the leopard population?

Mr. Maloni: Leopards are widespread in our country, and it is very difficult to control people who take them. We want to be frank with you. The Government is not yet at that stage of organization where it can control poaching. Some

people hunt at night, and our borders are very easy to cross, and leopard skins can easily be hidden. It is very difficult to control. That is the reason we are reviewing the 1937 law, and in the new law we will be able to control commercial channels.

In East Africa tourism is highly developed, but we do not want to be faced with some of the problems they have there. The Department of the Environment is newly created since 1975, so we have a new spirit and orientation to which we want to develop our natural resources. We want tourism and we want people to come to see our forests and streams and animals, but we don't want them to do all of the things they may want to do, certainly not in the parks and reserves. By 1980, we will have 15% of our country in parks and reserves which will keep our animals and our country for the people. I think people will like to come to see our animals kept in good condition in our reserves.

Dr. Swank: Would you expect most of your visitors to come from Europe?

Mr. Maloni: Mostly from western Europe, and the American countries, but everybody is welcome.

Dr. Swank: It is going to be very difficult to take away the initiative in tourist development from East Africa, but some people are saying that the animals are fast disappearing in East Africa and if that happens, people will begin going other places.

Mr. Maloni: We are getting letters from hunters now asking to come here to hunt, but we are asking them to postpone their hunt for one year, until we can get good guides and get organized, because we want them to have a good hunt.

Interview with Gilbert Child, FAO, Rome, Italy, on January 7, 1977, conducted by Wendell Swank.

Mr. Child: In most of the West African countries, I believe the situation is pretty grim. I don't know on what basis Myers said there were a lot of leopards. In the undisturbed areas, such as the Cameroon, in the forest the situation is not too bad. In the Sahil there isn't much wildlife. In Chad there is still internal strife, so we don't know what is going on. In Chad some work by a British volunteer, Nubig, several years ago, showed that there are still good populations of oryx, addax, and gazelle, probably the only country that has really good populations. Leopards are very scarce there; of course; it isn't leopard country, it's dry open semi-desert country. There are a few lions. The cheetah is the primary predator, but even it is scarce.

In the real rain forest where there is little disturbance such as Congo, Cameroon, Gabon, Central African Empire, there are leopards but as soon as the timber people move in the leopard poachers rapidly follow. Another factor is the extent to which the pygmies are hunting commercially. They spread right across the forest, and trade in items from hunting for other supplies. They primarily deal in meat, and frankly I don't know that they deal in leopard skins.

I would say that the illegal trade in game items is not organized in West Africa to the extent it is in East Africa. In Garoua you could buy game skins and ivory. A couple years ago when I was there there was a character in the hotel with a pile of leopard skins--18 to 20--and you could go through them and bargain. It is only recently, and only in some countries, that hunting and possession of game items became illegal. More countries are trying to rewrite their laws, bringing them in line with the African Convention. In many west African countries, unlike those of East Africa, unregulated hunting has always been a way of life, so now it is very difficult to suddenly impose restructions on hunting. Countries are now rewriting their laws and are trying to do a bit of enforcement. The effectiveness of these programs varies considerably between countries because of the difference in structure of their agencies. In some countries the control is exercised by customs, and their agents cannot identify the animals; they wouldn't know a sparrow from a parrot. Some Americans come to the Central African Empire to hunt. Klineberger has a safari organization in the Central African Empire, and they bring in a few Americans. We (FAO) have a project in Zaire, in the northern part, concerned with the potential of hunting, but I believe organized hunting safaris have not been in operation in that country for some time.

Interview with John Kundaeli, IUCN; formerly on the staff at Mweka in Tanzania; January 5, 1977.

Dr. Swank gave background on purpose of study.

Mr. Kundaeli: It is difficult to judge the status of the leopard in Tanzania--even in National Parks. In some areas in Tanzania and in some areas in East Africa the leopard is not endangered. In some areas there are problems with leopards taking sheep and goats. In areas such as Selous and Serengeti there are still a lot of leopards, but they are seldom seen. Cheetah are frequently seen, but they are unlike the leopard as they occupy a different habitat.

There are still leopards around Mweka on the mountain. The people go after them, and it is possible to get the skins out of the country. Leopards are taken by the Department on damage and some are taken by local people. Sport hunting by non-residents is not now permitted in Tanzania, unlike Kenya. Leopards are taken only by game department people, so the off-take is very well controlled.

In Kenya there is a problem with illegal take. Skins come into Kenya from Ethiopia, Sudan, Somalia and Tanzania.

As to poisoning of leopards by Cuputox, there are some local people who know of it. In Tanzania it would be very difficult for people to use Cuputox to poison animals and get away with it. It is not allowed to be used.

A few leopard may be taken alive, and a few leopard skins are given as gifts of Government but for leopard taken by local people, that is out. None of the big five dangerous game can be taken by local people. I would expect the leopard to increase in certain area, but poaching is still removing leopards in other areas.

Placing a seal on a legally taken leopard would still not preclude poaching. For hunting, the illegal take was not a problem, because in Tanzania each hunter was accompanied by a department warden when hunting by visitors was permitted. Hunters are not the problem, it is the illegal take.

There is very little take of cheetah, but it is more rare than the leopard. As long as there remains wild open country the cheetah will remain.

Leopards can stand some off-take because they are prolific. There are leopards in Arusha Park, just close to the town. Also in the town of Tobora. There are a lot of leopards south of Lake Manyara in the Rift Valley.

Game animals must have some value to the local people if they are to be permitted to remain. The country councils in Tanzania always showed their income from game in their budget.

Hunting by Africans is primarily for meat. Leopards are not used except for the fat and a few skins in the past have been used for decoration, primarily by chiefs.

Since they are not legally taken by hunting, it may be that we should consider not completely banning the leopard skins as items in trade. In Tanzania there is the Tanzania

Trade Corporation, a government agency. This agency should be able to market leopard skins; thus, we would be able to point out that the country is getting money from its wildlife.

Interview with Hartmann Junges, World Wildlife Fund, January 5, 1977, conducted by Wendell Swank.

Much of the interview was concerned with WWF projects and activities in Africa. Junges brought out the difficulties in getting data on leopard populations, but said they generally were more widespread than commonly believed.

Mr. Junges: In my study in Kruger Park in the late 1960's I found leopards occurred practically everywhere, although they may not have been abundant. Leopard tracks could be found around almost every kopje, almost anywhere there were baboons.

The taking of leopards by legally licensed sport hunters has little influence on the population. Illegal hunting and poaching is probably the detrimental activities.

Of course, one of the problems is the effect that safari hunting has on the local human population. In some areas, they put local people in jail for killing a leopard, yet the European hunter is permitted to legally shoot one.

Myers, in his report, points out countries where the leopard is relatively scarce, and countries where it is relatively abundant. I hope that, should hunting be permitted, the United States will select countries where the leopard is relatively abundant. Hunters should go where there are good populations.

Dr. Swank: Most U.S. hunters go to eastern Africa or to Botswana, areas reported by Myers to have satisfactory leopard populations. Should the U.S. permit the importation of skins of leopards taken by sport hunting it is proposed that an import permit specifying the country of origin he obtained by the hunter prior to leaving the States, and that the imported skin be accompanied by an export permit from the wildlife management agency of the country of origin stating that the leopard was legally taken. This would ensure that leopards would be taken from selected areas, should this be desirable.

Interview with Pierre Hunkeler, on the staff of IUCN, at Morges Switzerland, January 5, 1977, conducted by Wendell G. Swank.

Mr. Hunkeler: There are areas in West Africa that still have good populations of leopards; however, there have been few actual surveys in West Africa.

The professional hunting industry is not highly developed in West Africa. Some countries prohibit hunting entirely, whereas others permit it. One of the problems is that in a country where hunting is permitted, such as Upper Volta, hunters concentrate there. Very few hunters come from the States to hunt in West Africa.

At the first meeting of the conference of the parties in Berne last November there was considerable discussion relating to the importation of hunting trophies, and it seemed to be the concensus that hunting trophies were personal property--not items in trade--hence, did not fall under the provisions of the convention. Some signatories to the convention are permitting skins of leopards taken by sport hunters to be imported into the country. In the final analysis, it appears that actions by the various governments regarding this issue depends upon the interpretation of the provisions by governments.

In my opinion, there would be little support from most quarters in Europe for changing the leopard from Appendix I to Appendix II under the convention. In the last meeting most countries seemed to be for more rather than less protection for the species under discussion.

Arrangements had been made by Dr. Swank to interview Mr. Ali Omar, Director, Uganda National Parks, and Mr. John Bushara, Chief Game Warden, Uganda Game Department, but the airline flight was cancelled by the airlines on the proposed day of departure. A questionnaire was therefore sent to Uganda and the response was prepared by Mr. Omar.

Question 1. Do you consider the leopard rare or endangered in Uganda?

The leopard is a very shy animal. The spotted or rosette markings on its coat conceal it so that normally only an experienced observer can notice it. Thirdly, it is solitary in behavior, unlike other species such as lions which move in a group and easily draw attention. Recognizing the above difficulty, it would still be fair for one to say that the leopard is endangered.

Question 2. If so, is this status based on present populations or trends in populations that will be brought about by future development?

All the sightings of the leopard were recorded within National Parks which is 2.7% of the total area of Uganda.

The game reserves and controlled areas which make up about 14% of the total area of the country and often surrounds the National Parks have been reported to have some population of leopards, but no hunting permits have been issued by the game department since 1972. It is possible that the population might be on the increase for the past five or so years, but only a few of the reserves were checked for this purpose. The fact that legal hunting was banned proves that previous to the ban the population was decreasing.

The leopard also inhabits forest habitat; however, its distribution in the forest habitat has been widely recorded which can be attributed to its great power of concealment by its coat. In summary, therefore, this conclusion is based on a portion of the population within its entire range.

Question3. Upon what basis (personal experience in the field, reports from persons in the field, literature) do you draw your conclusion?

My conclusion is drawn from personal experience and reports from people in the field.

Question 4. If the United States should allow the importation of skins of legally taken leopards by sport hunting would it jeopardize the leopards in your country?

I have stated elsewhere in this interview that there is a current ban on sport hunting of leopards. It would not insure the security of the leopard if the United States re-allowed

importation of the leopard skins without consultation. If the United States wishes to allow the importation of legally taken leopard skins, consultation with countries neighboring to Uganda would be necessary because of the current prohibition on legal sport hunting on leopards in Uganda and because it is possible for the leopard to move to and fro across the Uganda boarder with countries immediately neighboring to it.

Question 5. Does your country have sufficient enforcement capabilities to prevent skins from leopards taken illegally getting into commercial channels if the U.S. permits importation of skins of leopards legally taken by sport hunters?

Leopard skins, like any other trophy such as ivory would not be prevented from doing so. The importer must prove to the customs authorities at the border the country of origin of the trophy. If not so then the custom officials would not allow the skin through the country.

Question 6. Do you have the administrative structure to certify that leopard skins brought in by hunters were legally taken in your country?

Prior to the prohibition of legal sport hunting of the leopards it is the responsibility of the game department to certify that all the leopard skins were legally taken.

Question 7. Would you anticipate any problems in having seals issued in the U.S. placed on leopard skins that were to be imported into the U.S. should the U.S. Government decide to permit such importations of skins of leopards taken by sport hunters?

Clearly this is an additional safeguard as far as minimizing exportation of illegally taken leopards, but I would certainly anticipate that the countries which used to import skins of leopard from this country would follow suit. I would encourage management measures be in the direction of conserving the leopard and its habitat.

Answers to qestionnaire, from Central African Empire, August 3, 1977. Respondent's name withheld upon request.

Question 1. Do you consider the leopard rare or endangered in your country?

Of course, the words "rare" or "endangered" require defining before one can answer this question properly, but in my opinion the answer is "no". They are extinct I believe over large areas of the country as is evinced by the people not bothering to shut up their sheep and goats at night. This is said to be due to an intensive poisoning campaign carried out 20 to 30 years ago by the French because leopards and hyaenas were a menace. There are vast areas of woodland in the country with very low human population densities and I have no reason to suppose that leopards do not occur there. However, I have only one experience of hearing one in the Bamingui-Bangoran National Park, but hunters say they are common in the hunting areas. It is, of course, in their own interests to say this, but I expect that they may be right.

Question 2. If so, is this status based on present populations that will be brought about by future development?

The efficiency of leopard destruction in the past does illustrate that it can be wiped out even in quite densely wooded and forested country with low human densities.

Question 3. Upon what basis (personal experience in the field, reports from persons in the field, literature) do you draw your conclusion?

Explained in 1.

Question 4. If the United States should allow the importation of skins of legally taken leopards by sport hunting would it jeopardize the leopards in your country?

Probably not, but who can make such predictions with certainty?

Question 5. Does your country have sufficient enforcement capabilities to prevent skins from leopards taken illegally getting into commercial channels if the U.S. permits importation of skins of leopards legally taken by sport hunters?

No.

Question 6. Do you have the administrative structure to

certify that leopard skins brought in by hunters were legally taken in your country?

No, and we would probably have the same problem as exists with ivory, that illegal hunters claim the trophy was obtained in Zaire or Sudan. They can then obtain a permit to possess.

Question 7. Would you anticipate any problems in having seals issued in the U.S. placed on leopard skins that were to be imported into the U.S. should the U.S. Government decide to permit such importation of skins of leopards taken by sport hunters?

Yes.

The following information was provided in response to correspondence enlisting the assistance of Dr. L. P. Van Lavieren, his staff and students at the Garoua School of Wildlife Management, Garoua, Cameroon. This school provides technical training to field staff of wildlife management and national park agencies in French speaking countries of Africa.

Nations Development Program

Food and Agriculture Organization

School For Wildlife Specialists

Garoua, 23 March 1977

Dear Mr. Swank:

Thank you for your letter of February 14 which arrived in Garoua March 14. I am pleased to assist in the leopard survey you are carrying out for the U. G. Government.

Unfortunately, your questionnaire was written in the English language which none of our students master. I therefore had to translate the text in French, which caused some delay.

I have asked students of the Diploma course to participate in the survey, and you find enclosed a total of 16 filled forms (of which 14 in French) representing the following countries: Cameroon, Senegal, Zaire, Chad, Benin, Gabon, Ivory Coast, Rwanda and Morocco. Most of the students have been working for a number of years in their Forestry Departments or National Park Services, and therefore comprise probably the best qualified source of information on this subject which you may expect to find in these countries. For your information, I have also added a statement of Dr. W. Butzler and myself on the situation in Cameroon. I hope you are able to decode the various handwritings.

As you will note, leopards are totally protected in 5 of the 10 countries mentioned above, which in fact makes the questionnaire irrelevant for those countries.

Finally, you may expect an official statement on this matter from the Director and staff members of our wildlife Management College, which will be forwarded to you as soon as possible.

I hope you find something useful on the enclosed forms.

Sincerely,

L. P. Van Lavieren
Team Leader RAF 74/056
Ecole de Faune
B.P. 271
Garoua, Cameroon

Mr. W. G. Swank
c/o James G. Teer and Company
Ecological and Game Management Consultants
1204 Walton Drive
College Station, Texas 77840
Etats Unis

School of Wildlife
Management

Garoua
18 March 1977

Inquiry on the Status of the Leopard

Country: Benin

Name(s) of Respondant(s): Hessou, Comlan

1. Do you consider the leopard rare or endangered in your country?	Yes, but have only a good idea of the population.
2. If so, is this status based on present populations or trends in populations that will be brought about by future developments?	Upon an actual population (almost unknown)
3. Upon what basis (personal experience in the field, reports from persons in the field, literature) do you draw your conclusions?	A little upon personal experience and especially with persons in the field.
4. If the United States should allow the importation of skins of legally taken leopards by sport hunting would it jeopardize the leopards in your country?	Yes, because the hunting laws are the hardest to enforce.
5. Does your country have sufficient enforcement capabilities to prevent skins from leopards taken illegally getting into commercial channels if the U.S. permits importation of skins of leopards legally taken by sport hunters?	No, based on situations in the game reserves.
6. Do you have the administrative structure to certify that leopard skins brought in by hunters were legally taken in your country?	Yes, but the poachers arrive soon and take them away. (Question misunderstood.)
7. Would you anticipate any problems in having seals issued in the U.S. placed on leopard skins that were to be imported into the U.S. should the U.S. government decide to permit such importation of skins of leopards legally taken by sport hunters?	Yes, there is always the risk of fraud.

School of Wildlife Management

Garoua
18 March 1977

Inquiry on the Status of the Leopard

Country: Cameroon

Name(s) of Respondant(s): Dr. W. Butzler

1. Do you consider the leopard rare or endangered in your country?	Endangered
2. If so, is this status based on present populations or trends in populations that will be brought about by future developments?	At present, selling of skins is practiced on an intensive scale in local markets, yet the species enjoys full protection by law.
3. Upon what basis (personal experience in the field, reports from persons in the field, literature) do you draw your conclusions?	Personal experience
4. If the United States should allow the importation of skins of legally taken leopards by sport hunting would it jeopardize the leopards in your country?	Undoubtedly, but the leopard is totally protected.
5. Does your country have sufficient enforcement capabilities to prevent skins from leopards taken illegally getting into commercial channels if the U.S. permits importation of skins of leopards legally taken by sport hunters?	There is enough personnel available.
6. Do you have the administrative structure to certify that leopard skins brought in by hunters were legally taken in your country?	No.
7. Would you anticipate any problems in having seals issued in the U.S. placed on leopard skins that were to be imported into the U.S. should the U.S. government decide to permit such importation of skins of leopards legally taken by sport hunters?	The leopard is totally protected in Cameroon and the U.S. should therefore not interfere.

School of Wildlife Management

Garoua
18 March 1977

Inquiry on the Status of the Leopard

Country: Cameroon

Name(s) of Respondant(s): L.P. van Lavieren-Teamleader FAO School of Animal Sciences

1. Do you consider the leopard rare or endangered in your country?	Endangered and rare.
2. If so, is this status based on present populations or trends in populations that will be brought about by future developments?	Based on the population and also on trends caused by current pressure on future development.
3. Upon what basis (personal experience in the field, reports from persons in the field, literature) do you draw your conclusions?	Upon experience and reports from the field.
4. If the United States should allow the importation of skins of legally taken leopards by sport hunting would it jeopardize the leopards in your country?	Yes.
5. Does your country have sufficient enforcement capabilities to prevent skins from leopards taken illegally getting into commercial channels if the U.S. permits importation of skins of leopards legally taken by sport hunters?	Unfortunately not
6. Do you have the administrative structure to certify that leopard skins brought in by hunters were legally taken in your country?	No.
7. Would you anticipate any problems in having seals issued in the U.S. placed on leopard skins that were to be imported into the U.S. should the U.S. government decide to permit such importation of skins of leopards legally taken by sport hunters?	Yes. Bribery is practiced on a large scale and is difficult to combat.

School of Wildlife Management

Garoua
18 March 1977

Inquiry on the Status of the Leopard

Country: Cameroon

Name(s) of Respondant(s): Mohamadou Abba Gucien and Hamadou Wadjiri

1. Do you consider the leopard rare or endangered in your country?	Yes.
2. If so, is this status based on present populations or trends in populations that will be brought about by future developments?	This is based on the population trends of the leopard.
3. Upon what basis (personal experience in the field, reports from persons in the field, literature) do you draw your conclusions?	My conclusion is based on the reports from persons in the field.
4. If the United States should allow the importation of skins of legally taken leopards by sport hunting would it jeopardize the leopards in your country?	Yes, tremendously.
5. Does your country have sufficient enforcement capabilities to prevent skins from leopards taken illegally getting into commercial channels if the U.S. permits importation of skins of leopards legally taken by sport hunters?	I do not know.
6. Do you have the administrative structure to certify that leopard skins brought in by hunters were legally taken in your country?	The leopard is legally protect by us.
7. Would you anticipate any problems in having seals issued in the U.S. placed on leopard skins that were to be imported into the U.S. should the U.S. government decide to permit such importation of skins of leopards legally taken by sport hunters?	There would certainly be many problems.

School of Wildlife Management

Garoua
18 March 1977

Inquiry on the Status of the Leopard

Country: Cameroon

Name(s) of Respondant(s): Falaina, Michel

1. Do you consider the leopard rare or endangered in your country?	Yes, the leopard is rare and endangered in our country.
2. If so, is this status based on present populations or trends in populations that will be brought about by future developments?	We do not know if it is one or the other.
3. Upon what basis (personal experience in the field, reports from persons in the field, literature) do you draw your conclusions?	Personal experience and reports of persons working in the field.
4. If the United States should allow the importation of skins of legally taken leopards by sport hunting would it jeopardize the leopards in your country?	Yes, because leopards are legally protected and the legal hunting would not be possible.
5. Does your country have sufficient enforcement capabilities to prevent skins from leopards taken illegally getting into commercial channels if the U.S. permits importation of skins of leopards legally taken by sport hunters?	No, there is not enough personnel to prevent the leopard skins, illegally taken, from entering into commerce.
6. Do you have the administrative structure to certify that leopard skins brought in by hunters were legally taken in your country?	No, not enough efficiency.
7. Would you anticipate any problems in having seals issued in the U.S. placed on leopard skins that were to be imported into the U.S. should the U.S. government decide to permit such importation of skins of leopards legally taken by sport hunters?	Yes, because there would always be the forgeries of the proceeding.

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Inquiry on the Status of the Leopard

Country: Cameroon

Name(s) of Respondant(s): M. Biambe; T. Kaotoing; and Zoua

1. Do you consider the leopard rare or endangered in your country?	It is rare and endangered.
2. If so, is this status based on present populations or trends in populations that will be brought about by future developments?	This is based on the actual stage of the present population and the trends in future developments.
3. Upon what basis (personal experience in the field, reports from persons in the field, literature) do you draw your conclusions?	Personal experience in the field and reports from persons working in the field.
4. If the United States should allow the importation of skins of legally taken leopards by sport hunting would it jeopardize the leopards in your country?	Yes.
5. Does your country have sufficient enforcement capabilities to prevent skins from leopards taken illegally getting into commercial channels if the U.S. permits importation of skins of leopards legally taken by sport hunters?	Not enforcement sufficient to prevent the illegal entry of leopard skins into commerce.
6. Do you have the administrative structure to certify that leopard skins brought in by hunters were legally taken in your country?	It exists within our administrative structure, but the legal hunting of leopards is forbidden.
7. Would you anticipate any problems in having seals issued in the U.S. placed on leopard skins that were to be imported into the U.S. should the U.S. government decide to permit such importation of skins of leopards legally taken by sport hunters?	This is not possible; the leopard is legally protected.

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Inquiry on the Status of the Leopard

Country: Central African Empire

Name(s) of Respondant(s): F. Sambia and L. Ndamokonzia

1. Do you consider the leopard rare or endangered in your country?	Yes.
2. If so, is this status based on present populations or trends in populations that will be brought about by future developments?	It is based on the trends in population in future developments.
3. Upon what basis (personal experience in the field, reports from persons in the field, literature) do you draw your conclusions?	Our response is based on the passage (of law) forbidding the hunting of this species in our territory.
4. If the United States should allow the importation of skins of legally taken leopards by sport hunting would it jeopardize the leopards in your country?	Yes.
5. Does your country have sufficient enforcement capabilities to prevent skins from leopards taken illegally getting into commercial channels if the U.S. permits importation of skins of leopards legally taken by sport hunters?	Capabilities limited.
6. Do you have the administrative structure to certify that leopard skins brought in by hunters were legally taken in your country?	Yes.
7. Would you anticipate any problems in having seals issued in the U.S. placed on leopard skins that were to be imported into the U.S. should the U.S. government decide to permit such importation of skins of leopards legally taken by sport hunters?	The reasons for prohibiting the hunting of this species is to not permit authorization of interference, whatever, the right of influence over our strength of which you complain.

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Inquiry on the Status of the Leopard

Country: Chad

Name(s) of Respondant(s): D. Lakzoune and G. Mbogo

1. Do you consider the leopard rare or endangered in your country?	Yes.
2. If so, is this status based on present populations or trends in populations that will be brought about by future developments?	On the present populations, the destruction of their habitat, and the illegal commercialization of the skin.
3. Upon what basis (personal experience in the field, reports from persons in the field, literature) do you draw your conclusions?	Personal experience and reports from persons working in the field.
4. If the United States should allow the importation of skins of legally taken leopards by sport hunting would it jeopardize the leopards in your country?	Yes.
5. Does your country have sufficient enforcement capabilities to prevent skins from leopards taken illegally getting into commercial channels if the U.S. permits importation of skins of leopards legally taken by sport hunters?	Insufficient enforcement capabilities and the resources fro preventing the illegally taken skins from entering commerce.
6. Do you have the administrative structure to certify that leopard skins brought in by hunters were legally taken in your country?	The certificate of origin (ord 14/63 dec. 28 May 1963)certificate of delivery by the administrative inspector. Visa by the customs.
7. Would you anticipate any problems in having seals issued in the U.S. placed on leopard skins that were to be imported into the U.S. should the U.S. government decide to permit such importation of skins of leopards legally taken by sport hunters?	no.

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Inquiry on the Status of the Leopard

Country: Gabon

Name(s) of Respondant(s): D. Medzine and A. Melagui

1. Do you consider the leopard rare or endangered in your country?	It is a rare animal that is found only in the interior of the big Gabonaise forest.
2. If so, is this status based on present populations or trends in populations that will be brought about by future developments?	No.
3. Upon what basis (personal experience in the field, reports from persons in the field, literature) do you draw your conclusions?	Entirely on the reports of automobiles that travel in the big forest.
4. If the United States should allow the importation of skins of legally taken leopards by sport hunting would it jeopardize the leopards in your country?	Yes.
5. Does your country have sufficient enforcement capabilities to prevent skins from leopards taken illegally getting into commercial channels if the U.S. permits importation of skins of leopards legally taken by sport hunters?	No.
6. Do you have the administrative structure to certify that leopard skins brought in by hunters were legally taken in your country?	Yes.
7. Would you anticipate any problems in having seals issued in the U.S. placed on leopard skins that were to be imported into the U.S. should the U.S. government decide to permit such importation of skins of leopards legally taken by sport hunters?	Yes.

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Inquiry on the Status of the Leopard

Country: Ivory Coast

Name(s) of Respondant(s): G. Bleu, Patric, and Dje Louis

1. Do you consider the leopard rare or endangered in your country?	The leopard is endangered on the Ivory Coast; even rare.
2. If so, is this status based on present populations or trends in populations that will be brought about by future developments?	The rarity of the leopard is based on the present population.
3. Upon what basis (personal experience in the field, reports from persons in the field, literature) do you draw your conclusions?	Our conclusion is based on our experience in the field.
4. If the United States should allow the importation of skins of legally taken leopards by sport hunting would it jeopardize the leopards in your country?	The state has decided that the animal is rare, a legally managed class, and is not to be hunted.
5. Does your country have sufficient enforcement capabilities to prevent skins from leopards taken illegally getting into commercial channels if the U.S. permits importation of skins of leopards legally taken by sport hunters?	There are not enough people and means.
6. Do you have the administrative structure to certify that leopard skins brought in by hunters were legally taken in your country?	An administrative structure exists.
7. Would you anticipate any problems in having seals issued in the U.S. placed on leopard skins that were to be imported into the U.S. should the U.S. government decide to permit such importation of skins of leopards legally taken by sport hunters?	Fraud always exists. Likewise it is not legal to market the skins.

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Inquiry on the Status of the Leopard

Country: Morocco

Name(s) of Respondant(s): Abou Abdallah, Youssef

1. Do you consider the leopard rare or endangered in your country?	Yes, therefore it is given complete protection.
2. If so, is this status based on present populations or trends in populations that will be brought about by future developments?	This is based principally on trends in population and conditions of the habitat.
3. Upon what basis (personal experience in the field, reports from persons in the field, literature) do you draw your conclusions?	Reports from people working in the field.
4. If the United States should allow the importation of skins of legally taken leopards by sport hunting would it jeopardize the leopards in your country?	Importations of skins is illegal.
5. Does your country have sufficient enforcement capabilities to prevent skins from leopards taken illegally getting into commercial channels if the U.S. permits importation of skins of leopards legally taken by sport hunters?	We have sufficient enforcement capabilities.
6. Do you have the administrative structure to certify that leopard skins brought in by hunters were legally taken in your country?	Not applicable. Leopard is protected.
7. Would you anticipate any problems in having seals issued in the U.S. placed on leopard skins that were to be imported into the U.S. should the U.S. government decide to permit such importation of skins of leopards legally taken by sport hunters?	Not applicable.

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Inquiry on the Status of the Leopard

Country: Rwanda

Name(s) of Respondant(s): Usengimana, Couville

1. Do you consider the leopard rare or endangered in your country?	Rare and legally protected.
2. If so, is this status based on present populations or trends in populations that will be brought about by future developments?	Actual state of the population.
3. Upon what basis (personal experience in the field, reports from persons in the field, literature) do you draw your conclusions?	Reports from people working in the field.
4. If the United States should allow the importation of skins of legally taken leopards by sport hunting would it jeopardize the leopards in your country?	This would menace a lot in my country.
5. Does your country have sufficient enforcement capabilities to prevent skins from leopards taken illegally getting into commercial channels if the U.S. permits importation of skins of leopards legally taken by sport hunters?	Not sufficient.
6. Do you have the administrative structure to certify that leopard skins brought in by hunters were legally taken in your country?	Yes, we have.
7. Would you anticipate any problems in having seals issued in the U.S. placed on leopard skins that were to be imported into the U.S. should the U.S. government decide to permit such importation of skins of leopards legally taken by sport hunters?	There are problems.

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Inquiry on the Status of the Leopard

Country: Senegal

Name(s) of Respondant(s): S. Sylla

1. Do you consider the leopard rare or endangered in your country?	Rare animal
2. If so, is this status based on present populations or trends in populations that will be brought about by future developments?	Present actual state
3. Upon what basis (personal experience in the field, reports from persons in the field, literature) do you draw your conclusions?	Personal experience and reports from persons in the field.
4. If the United States should allow the importation of skins of legally taken leopards by sport hunting would it jeopardize the leopards in your country?	Animal totally protected and is not a question of importation of skins to the U.S.A.
5. Does your country have sufficient enforcement capabilities to prevent skins from leopards taken illegally getting into commercial channels if the U.S. permits importation of skins of leopards legally taken by sport hunters?	There is sufficient enforcement capabilities.
6. Do you have the administrative structure to certify that leopard skins brought in by hunters were legally taken in your country?	Yes, leopard skins taken by hunters are illegally acquired.
7. Would you anticipate any problems in having seals issued in the U.S. placed on leopard skins that were to be imported into the U.S. should the U.S. government decide to permit such importation of skins of leopards legally taken by sport hunters?	The question is not applicable because the animal is legally protected. If one permits the selling of this skin and complete keeping of this species in the country, the problems of poaching will sooner or later be posed.

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Inquiry on the Status of the Leopard

Country: Senegal

Name(s) of Respondant(s): Thioune, D. Samb

1. Do you consider the leopard rare or endangered in your country?	Yes, it is rare.
2. If so, is this status based on present populations or trends in populations that will be brought about by future developments?	This is based on the actual stage of the population.
3. Upon what basis (personal experience in the field, reports from persons in the field, literature) do you draw your conclusions?	Reports from persons in the field.
4. If the United States should allow the importation of skins of legally taken leopards by sport hunting would it jeopardize the leopards in your country?	Yes, very reliable; fortunately the leopard is legally protected in Senegal.
5. Does your country have sufficient enforcement capabilities to prevent skins from leopards taken illegally getting into commercial channels if the U.S. permits importation of skins of leopards legally taken by sport hunters?	Yes, there are sufficient enforcement capabilities but the way (means) inadequate to prevent the hunt of the leopard but the law would be severe.
6. Do you have the administrative structure to certify that leopard skins brought in by hunters were legally taken in your country?	No, and that would be stupid to believe.
7. Would you anticipate any problems in having seals issued in the U.S. placed on leopard skins that were to be imported into the U.S. should the U.S. government decide to permit such importation of skins of leopards legally taken by sport hunters?	There is always fraud, and for this reason, in my opinion, it would not work.

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Inquiry on the Status of the Leopard

Country: Zaire

Name(s) of Respondant(s): M. Kabuyaya; N. Kalala; and S. Karonde

1. Do you consider the leopard rare or endangered in your country?	Rare and under complete protection.
2. If so, is this status based on present populations or trends in populations that will be brought about by future developments?	The actual state of the present population
3. Upon what basis (personal experience in the field, reports from persons in the field, literature) do you draw your conclusions?	Reports from persons in the field.
4. If the United States should allow the importation of skins of legally taken leopards by sport hunting would it jeopardize the leopards in your country?	It would be a menace.
5. Does your country have sufficient enforcement capabilities to prevent skins from leopards taken illegally getting into commercial channels if the U.S. permits importation of skins of leopards legally taken by sport hunters?	Yes.
6. Do you have the administrative structure to certify that leopard skins brought in by hunters were legally taken in your country?	Yes.
7. Would you anticipate any problems in having seals issued in the U.S. placed on leopard skins that were to be imported into the U.S. should the U.S. government decide to permit such importation of skins of leopards legally taken by sport hunters?	Advantage to the poachers.

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Inquiry on the Status of the Leopard

Country: Zaire

Name(s) of Respondant(s): Palana; Kimene; and T. Kunieki

1. Do you consider the leopard rare or endangered in your country?	Rare.
2. If so, is this status based on present populations or trends in populations that will be brought about by future developments?	The exact numbers are unknown to us; we are basing this on population trends.
3. Upon what basis (personal experience in the field, reports from persons in the field, literature) do you draw your conclusions?	Experience of people in the field.
4. If the United States should allow the importation of skins of legally taken leopards by sport hunting would it jeopardize the leopards in your country?	In Zaire, the leopard is legally protected.
5. Does your country have sufficient enforcement capabilities to prevent skins from leopards taken illegally getting into commercial channels if the U.S. permits importation of skins of leopards legally taken by sport hunters?	No.
6. Do you have the administrative structure to certify that leopard skins brought in by hunters were legally taken in your country?	No.
7. Would you anticipate any problems in having seals issued in the U.S. placed on leopard skins that were to be imported into the U.S. should the U.S. government decide to permit such importation of skins of leopards legally taken by sport hunters?	Since it is protected, we can see no reason for importing the skin.